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The Fall 1960 Conference of the California Council on Teacher Education included three sessions. The first session consisted of the "Progress Report of the State Central Coordinating Committee on Credential Revision" by Fred Schrupp and the "Proposed Policy Statement on Teacher Education of the California Teachers Association" by Charles Hamilton. Included were eleven committee reports dealing with teacher recruitment and selection, social foundations in teacher education, accreditation procedures, television and teacher education, inservice education, improvement of instruction in teacher education, college and university faculty procurement, and teacher assessment and research.

The second session delved into the use and theory of teaching machines and programed learning. The specific reports given were "Types of Teaching Machines" by Sidney C. Eboch, "Auto-Instruction" by Evan R. Keislar, "Shall We Mechanize the Classroom" by Fred T. Tyler, "Some Observations of the Theory of Teaching Machines" by Father John O'Farrell, and "Comments on the Theory of Teaching Machines" by Eli M. Bower.

The third session consisted of two reports -"Legal Aspects on the Selection and Screening of Credential Candidates" by Orville Nordberg and "The Master Plan for Higher Education: Implication for Teacher Education" by Mrs. W. W. Wood.

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Minutes and Proceedings
of the Yosemite Conference

October 27, 28 & 29, 1960

INSTRUCTIONAL TECHNOLOGY - U.S.C.

CALIFORNIA COUNCIL ON TEACHER EDUCATION

Sacramento, California

TO: President Finnegan and Representatives to the California Council on Teacher Education

SUBJECT: Minutes and Proceedings of the Fall Conference held at the Ahwahnee Hotel, Yosemite National Park, October 27, 28, and 29, 1960

Attached are the minutes and proceedings of the 1960 Yosemite Conference. It is hoped that members of the Council will share the contents of these minutes and proceedings with their colleagues and with others interested in teacher education.

Your attention is called to the next meeting of the Council which will be held at the Miramar Hotel, Santa Barbara, on April 13, 14, and 15, 1961.

Respectfully submitted,

Carl A. Larson

Carl A. Larson, Secretary

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Report of the First General Session

"Progress Report of the State Central Coordinating Committee on Credential Revision"

--Fred Schrupp, Dean of Education and Extended Services, San Diego State College

Mr. Chairman, fellow members of the Council, I was going to tell you just two things; one was that the State Central Coordinating Committee on Credential Revision had met twice; and, second, that it would routinely report to the Council. When I first talked to Father Finnegan about this Committee he pointed out that he and Dr. Simpson had, in line with the recommendations of the Board of Directors of the Council, attempted to appoint a committee that was non-representative; that is, not representative of any group or groups in the State.

The Committee has met twice. Because our procedures so far have been fairly routine, the report will be a very short one. The fall 1960 issue of the California Council on Teacher Education Newsletter carried the names of the members of the Committee. They are as follows: Mrs. Talcott Bates, Member, State Board of Education; William B. Brown, Los Angeles City Schools; Leo F. Cain, San Francisco State College; Richard M. Clowes, Oxnard Elementary Schools; Gilbert A. Collyer, Shasta College, Redding; Rev. Darrell F. X. Finnegan, Loyola University; Carl A. Larson, State Department of Education, Sacramento; Irving Melbo, University of Southern California; and James C. Stone, University of California, Berkeley.

The State Central Coordinating Committee on Credential Revision has been charged with two major functions: one, to coordinate what we are calling Phase II of credential revision, and, two, with the responsibility of making progress reports to the Council and to the State Superintendent of Public Instruction. The Committee has developed guidelines which we hope will govern the action of our Committee and the other resource committees which will be working on credential revision. The guidelines are couched in terms such as this: that in the final report we will avoid undue specificity, that our credential requirements will be stated in terms general enough so that each institution will have considerable freedom to develop its programs of teacher education in terms of its own objectives and in terms of its own philosophy.

At the last meeting of the committee we established four resource committees to assist the State Central Coordinating Committee. We are now in the process of identifying a number of people throughout the State to serve on these resource committees. There will be one committee on the general teaching credential, a second on the designated subject teaching credential, a third on the designated services credential, and a fourth on the supervision-administration credentials. These four resource committees will be headed up by a team of people from the State Central Coordinating Committee. We hope that this will make it possible to coordinate closely all aspects of Phase II of credential revision.

The various members of the resource committees will, we hope, be representative of all segments and interests of education in the State. Furthermore, we will encourage the resource committees to make the fullest use of other individuals and professional groups throughout the State. These groups, which we have termed satellite groups will work with the resource committees and the resource committees with the State Central Coordinating Committee to establish the recommended requirements for the credentials.

In conclusion, may I point out to you that we have been charged with a very specific responsibility, and I hope that you understand it fully. Our responsibility is to use the credential framework approved by the State Board of Education, and to develop requirements for the five credentials within that framework. It is not our responsibility, in fact, it is not our perogative, to go back to the beginning and to examine or question the original framework.

We hope to proceed expeditiously and effectively to develop a series of requirements for teaching credentials and credentials related to other school services which we hope will place teacher education on a new higher plane in California.

"The Proposed Policy Statement on Teacher Education of the California Teachers Association"

--Charles Hamilton, Executive for Teacher Education,
California Teachers Association

There are so many educational reports anxious to be delivered these days that one wonders what strange logic caused the selection of this report on this particular evening. I can recall at least four reports in which I am sure you would be interested. The Citizens Advisory Commission on Education this last Saturday made its final report with some very choice references to teacher education, and it is the business of the Council to be informed on this development. The preliminary report of the San Diego Conference on Teacher Education and Professional Standards of last June has just now been released and that is the business of this Council. The National Education Association's New Horizons project has been published and is being bandied about the State, and I suspect that some of the trial balloon ideas in that report are your business. And then, too, I am reminded of the San Francisco reports that we have before us these days. This is, indeed, a reporting season.

The Committee on Teacher Education of the California Teachers Association is deeply appreciative of an opportunity to present to this Council the result thus far of its attempt to prepare a basic policy statement on teacher education. This statement, I believe, is in your hands. It was mailed recently to each member of this Council with the hope that your individual and collective reactions might be forthcoming during the next few weeks. Each of you has at least had an opportunity to look at the most recent revision of a statement that has moved through some five revisions during the last two years. Not all of you, but many of you, have studied one or more of the earlier revisions of this document; and a few of you have given, either individually or through some professional organization to which you belong, reactions or suggestions.

It is appropriate at this time, before the statement is finally presented to the California Teachers Association's policy setting body, that this Council should again offer any further suggestions. Our California Teachers Association's Committee knows that the California Council on Teacher Education largely holds the key to whatever we may aspire toward in higher standards for teacher education in this State. Your reactions, your suggestions, and your directions in any aspect of any problem that is presented in this statement will be most helpful.

I would like to describe first and briefly the machinery involved in the development and implementation of policy in the California Teachers Association. To some of you this is old stuff. To those who are newer members of the Council and new to action in the profession in this State it may be important. I want to relate this policy development process to the teacher preparation document that you have in your hands.

It is to be expected that an organization of some 115,000 members (a corporation of the profession, if you please) would develop over the years some sort of a mechanism by which the membership could be sure that policy positions of the corporation represented at least a majority of the stockholders. And, of course, that the actions based on that policy are those that at least a majority subscribe to. In the long history of the California Teachers Association, a history that goes back into the last century, this representative government has been continuously refined. It is still being refined, because it is far from perfect. In the field of teacher education, for example, we are very much concerned whether or not the California Teachers Association can speak authoritatively about the feelings of the profession in this State.

The Association now maintains both administrative and policy development mechanisms to care for its teacher education interests. I want to describe these two mechanisms before we come to the document at hand. To administer the California Teachers Association's teacher education function, we have had for many years a Commission on Teacher Education. There are nine members. They have long terms. They are appointed to this Commission particularly for their competence in the field of teacher education, and because they represent specific identifiable interests in teacher education. They are appointed by the Board of Directors of the Association; and, for all effects and purposes, they are a sub-board of directors of the California Teachers Association in charge of the teacher education activities of the Association. Two members of the Commission officially are members of your Council, according to your own Constitutional arrangements. A member of our staff is one of five Consultants to the Board of Directors of this Council. To summarize, I think our Commission in the California Teachers Association has close ties to this Council by virtue of its representation both in the body of the Council and on your Board of Directors.

The Commission I have just described is an administrative body only. Policy of the Association, regardless of the field, whether it is teacher education policy, retirement policy, tenure provisions, or ethics enforcement policy, no matter what area of concern it may be, the policy that directs the Association's program is established by one representative agency and this is called the State Council of Education. The State Council is our professional legislative branch. It is composed not of appointive members, but of elected delegates representing a constituancy in the profession. These are the educational politicians in the best sense of the word.

This State Council of Education has a number of committees just as the Senate, or the Assembly, or the House of Representatives, has a number of standing committees dealing with the welfare of the citizenry or in our case the welfare of the profession. One of these committees at the state level is the Committee on Teacher Education. It has 48 members elected to the Council and serving by choice on this Committee. They represent a wide variety of professional interests, and I am particularly pleased that in the last few years there have been elected to this committee representatives from higher education. There are now two and possibly three members of that 48 member committee from the staffs of institutions that are accredited for teacher education. Others are classroom teachers, school administrators, supervisors, and other specialists.

It is this committee that sends to you the proposed policy statement entitled Pre-service Preparation of Teachers in California. This is the Committee that believes that it has about come up with a statement that might be the beginning of policy for the California Teachers Association in the field of teacher education. This Committee, by the way, has six delegates of its own that are official members of your Council and this again is by your Constitutional arrangement. As a visitor for this meeting, I have urged the attendance of a committee man who has chaired the major subcommittee of the larger Teacher Education Committee that had a large share in the writing of the document. Mr. Ray Roulette, a junior high school mathematics teacher of Los Angeles, is here to collect your ideas so that he might take these back to his state committee.

This description of California Teachers Association policy and action machinery has been very brief and superficial, far too simple. It should be described in much more detail. It may, however, serve to establish the genesis of this proposed policy statement on teacher preparation. May I remind you that the statement has not yet been given to the California Teachers Association's State Council on Education, but it has been developed to a point where the Committee hopes that it might be considered for adoption before this year is out.

Now, some comments about the document itself. You have discovered that this statement is limited in scope. It deals only with pre-service teacher education and leaves in-service education for development in the future. Continuing selective identification of credential candidates is also reserved for another writing. Both of these areas, however, have been approached through some preliminary analysis and some beginning work has already been inaugurated by subcommittees set up for this purpose. If all goes well, I would assume that in another year we will approach this Council with tentative documents for which again we will request your reactions.

The depth of treatment of the various sections in this statement differ. As an example, you have noted that the document proposes adoption of a general description of the professional roles or professional competencies. You recognize, of course, that this analysis is taken largely from early work of this Council, work that was under the leadership of Lucien Kinney. You will note also that one of the roles, the teacher as a member of the profession, has been singled out for extra attention. While this role receives further analysis, other important roles are taken for granted. This variation, I believe, can be found in certain other portions of the document. I think it is significant, in a document that comes to you from the California Teachers Association, that these items which have more weight or more depth of treatment may indicate the feelings, the attitudes, and, perhaps, the strong hopes and desires of a large mass of teachers in this State. Spelled out in this document are the needs for additional practitioners who have understandings of their obligations for professional membership, understandings of professional ethics, and understandings of our licensure system and teachers' legal rights and responsibilities.

There is not time to call to your attention all sections of this proposed statement. I want, however, to pull out just a few items as highlights. In Section I it would clearly be put on record that the profession in this State supports a rigorous program of teacher education that will include graduate studies before initial full-time teaching. It suggests that this shall be a program for all teachers, higher education teachers through those serving in the elementary schools of the State. If this should be adopted by the California Teachers Association, it is the first time the corporate profession in this State has taken this position except by indirection. This has considerable meaning for many of the institutions represented in this Council.

Section II urges greater depth in the laboratory experience program. It suggests further integration, or rather inter-relation, of professional theory and practice. It does not prescribe more time for student teaching, although this may be involved in reaching the indicated goals. It gives definite support to the laboratory and demonstration school by stating rather explicitly that, in order better to assure the adequate inter-relation of theory and practice, it is highly desirable that a college related laboratory or demonstration school be established in every teacher education center. A good deal of thought on this matter has resulted in a fairly direct statement.

Section III deals with the teaching field specialization. After calling for appropriate breadth of subject matter preparation and inter-relation of subject matter fields, it is proposed that all teachers, elementary teachers, too, should be encouraged to achieve mastery in depth in either a teaching field or in some foundational discipline supporting professional education. This has wide implication for our teacher education programs in this State.

Section IV supports diversity in liberal education programs and points up the need for a body of teachers that can give intellectual leadership in their communities, over and above the leadership of the average citizen.

Section V calls for renewed emphasis on teaching competence in higher education circles. In addition, it urges teachers in higher education to join their colleagues in the corporate undertakings of the total profession. I particularly call Section V to your attention because it may have strong feelings attached to it.

Section VI opposes, but uses the positive approach rather than the negative approach, decentralization of the administration of teacher education. There is concern on the part of the teachers backing this initial proposal that in some of our institutions the administration of teacher education may be farmed out and watered down so that the profession does not know where it stands in that institution. Read Section VI with care and give us your reaction. Section VI also focuses on public school district responsibility in the field of teacher preparation.

Section VII concludes the statement on a practical note. It proposes an adequate financial structure for teacher education. The Association, if this policy can be set, would expect those who teach teachers to receive salaries commensurate with the highest in any field of educational service in this State. It suggests that standards of financial support must be established and met at the institutional level or the teacher education function in those institutions should not be pursued. Very frankly, it suggests for California that we cannot afford teacher education at every crossroads of the State. Section II suggests that we take teacher education out of the bargain basement classification. I commend Section VII to you as a very practical aspect of this policy statement.

I have touched only briefly on a few positions contained in this document. May I encourage your attention and very earnestly solicit your aid in the following three ways:

(1) The California Teachers Association's Committee on Teacher Education has deep respect for this Council. We know that its individual members represent the most competent people in the State to give us advice in the field of teacher education. Indeed, you are the careerists in this field. I can assure you that your individual suggestions, your individual statements of agreement or your disagreements will be considered individually and will assist us in measuring our tentative policy proposals in teacher education. If you can send us your written comments, please do so during the next two or three weeks. Your statements may be directed to the California Teachers Association office in Burlingame, California.

(2) In addition to the individual response, which is so very important to us, it is clear that several committees of the Council have a stake in the points of view expressed among those various California Teachers Association proposals. We would appreciate reactions from your committees.

(3) Should the Council, on some future occasion, care to consider making a statement in support of the Association's policy in teacher education, it would be very welcome and, indeed, I should say it could be of vital importance to the total profession in this State.

This, of course, at the present time, is not a completed document. At best it only begins now to represent certain hopes and aspirations that teachers may hold for their professional preparation institutions and the programs they sponsor. At the least, it proposes that the profession itself take a stand on some of the issues in teacher education. If we in the corporate profession are not willing to say and do the things that must be said and done for teacher education in this State, nobody else with competence will say or do these things for us. The professional entity must be in the forefront of decision making in our field.

We are engaged, whether we like it or not, in the battle to clarify the image of the teaching profession in this State and to raise professional standards for teachers and for teaching. We are waging a battle on many fronts. In the field of licensure we are waging a battle to bring to the profession an efficient system of licensure. In the field of accreditation we are quietly waging a battle to set standards for our institutions. In the area of teacher education generally, we are at least eyeing the front line. Certainly, there remain other areas in addition to these three that affect the internal standards of the teaching profession. For the corporate profession in this State to overlook policy development in teacher education and to overlook policy development in any of these interrelated fields is a type of irresponsibility. On behalf of the California Teachers Association, and, particularly, on behalf of the Commission and the Committee on Teacher Education of the Association, I solicit your support, your aid in attacking these problems on a broad front.

COMMITTEE REPORTS

Section I. Teacher Recruitment and Selection

Chairman--Leonard Grindstaff

Committee members agreed to limit time spent on progress reports of the four regional coordinating committees.

Reports of Regional Coordinating Committees

The brief reports given by area chairmen were as follows:

1. Central Coordinating Committee (Emerson Bain reporting): Virtually every county in the central region gave special emphasis to the promotion of Teaching Career Month programs. Special emphasis was given, also, to recruitment activities during Public Schools Week. An example of the type of activity pursued was the placing in grocery stores and in bags of groceries of invitations to visit the schools during Public Schools Week.

   Fresno State College was host to a "professional day" for pre-teacher groups. Professional honorary education organizations sponsored the program. A special meeting was held concurrently for advisors of future teachers groups.

2. Southern Coordinating Committee (Mrs. Jane Gowan reporting): One meeting of the Southern Committee was devoted to the sharing of college and university recruitment activities. Nine colleges and universities were represented.

   The Southern Committee has selected four problem areas for depth study and research for subcommittees, as follows:

   a. Better utilization of communication outlets (Chairman: E. L. Chalberg).

   b. Improvement of teacher retention (Chairman: Dan Cappa).

   c. Investigation of counselor and teacher roles in recruitment efforts at both secondary and college levels (Chairman: Wilfred Landrus).

   d. Investigation of quality control factors in recruitment (Chairman: William Georgiades).

   A separate report from the Santa Barbara County Recruitment Council was given by Joy Peterson, who indicated the primary interest of her committee is the promotion of a continuing; cooperative scholarship program.

3. Central Coast Coordinating Committee (Virginia Barton reporting): The Central Coast Committee has become increasingly concerned with creating a "quality image" of the teacher. The Committee has utilized public relations people from business and industry as a resource in helping to determine methods of procedures. Now under study is the possibility of securing funds to develop a full-scale program for improving the public image of the teaching profession in the Central Coast area.

4. Bay Area Coordinating Committee (Eloise Honett reporting): A brochure concerning college teaching has been completed in final draft form and is ready for publication.

   Six of the thirteen counties in the Bay Area now have county-wide recruitment committees. One of the primary objectives for the coming year will be the establishment of additional county committees.

   The Bay Area Committee has recommended to the county superintendent of schools finance committee a greater financial support be allotted to the county teacher screening and advisory service function.

Report of Small Discussion Groups

Following the regional reports, three general problem areas were identified for further investigation. The Committee decided to examine these problem areas through small group discussion as a means of saving time. The problem areas were defined as (a) creating the quality image (b) motivation to teaching and (c) trends in supply and demand problems.

Each group discussed their problem area and made recommendations for further action on the part of the State Committee and/or regional committees.

Recommendations growing out of the small group discussions were the following:

1. Efforts should be continued toward determining how teachers perceive the teaching profession and how the public perceives the teaching profession. Study should be made of the ways in which teachers can help in the development of the quality image, both among teachers and the public. Efforts should be made to finance the services of a public relations person to direct such a program.

2. The Committee should avail itself of the findings of research relative to motivation as the initial step toward further action. The research findings already available should then be supplemented by further study and research on the part of the Committee, including a follow-up study and other evaluative research.

3. There is growing concern that supply and demand information be made more specific. Two problems appear to be paramount if a true balance between supply and demand is to be achieved: (a) shortages related to geographic location, and (b) matching teacher candidate specialization with specific shortage areas of specialization. Suggested actions pointed toward improving the supply-demand relationship included:

   a. Establishment of off-campus, "roving" teacher education centers,

   b. Spreading of student teacher assignments,

   c. Better counseling concerning shortage areas.

It was suggested that each of the regional coordinating committees consider the possibility of attacking these problems at the regional level.

Plans for Next Steps

It was agreed that all pertinent information relating to the problem areas identified would be made available, if possible, to committee members prior to the spring meeting in Santa Barbara. Specific suggestions included the following:

1. Results of the most recent supply and demand study completed by the State Department of Education will be made available to all committee members. Particular attention will be given to information relating to geographic influences and imbalance among areas of specialization.

2. In its study of motivation, the Committee might be helped by securing the services of persons whose specialization is career motivation. In addition to such personal help, committee members are to be given summaries of research related to motivation to teach.

3. Regional coordinating committees will be asked to share the results of their activities related to the three problem areas.

4. Provision should be made for evaluating committee efforts in the three problem areas.

There was general agreement that this meeting of the Committee was one of the most worthwhile held in recent years. Committee members agreed that the structure of this meeting should be given priority in planning for the Santa Barbara meeting.

--William Georgiades and
Joy Peterson--Co-recorders

Section II. Social Foundations in Teacher Education

Chairman--Robert Smith

The Social Foundations Committee worked during the morning on Friday[1] in refining the sociological foundations document and in raising editorial questions about it. A subgroup of the committee worked during the afternoon in clarifying points of difference and suggesting changes which should be made before the document is submitted to the Council in final form.

Certain revisions needing to be made were assigned to committee members; these revisions will be made within the next two weeks, circulated to other members of the subcommittee, and will be sent to the Chairman and Secretary for final editing. The Committee plans to refine the statement by circulating it to members prior to the Santa Barbara meeting. The hope is that this document will be ready to submit to the Council at the 1961 Santa Barbara meeting.

Another subcommittee met to discuss the second phase of the committee's work, namely, raising the relevant questions and issues which need to form the basis for further attention to the philosophical foundations of education. This statement will be developed further by the subcommittee before the Santa Barbara meeting and will be included as a part of the report at Santa Barbara. This part of the report will suggest the continuity of effort in the social foundations of education.

This discussion was exploratory and will be developed further before the Santa Barbara meeting. The group pointed out the necessity of maintaining the relationships between the sociological and philosophical foundations of education. They raised such questions as:

1. The need for systematic and specific attention to philosophical foundations as an integral part of a teacher education program.
2. The need for attention to philosophy in the liberal arts program as a basis upon which to build educational philosophy.
3. The need for defined areas of competence in philosophy as related to education.

The Committee suggests that:

1. At the 1961 Santa Barbara meeting the sociological foundations document may be submitted to the Council.
2. The subcommittee on philosophical foundations of education will have stated the concerns and questions which need consideration before developing a subsequent statement more directly focused on the philosophical foundations of education.

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[1] The Social Foundations Committee devoted forty minutes to discussion of the California Teachers Association proposed policy statement on teacher education. By agreement, responses to the statement were confined to those parts of the report closely related to the social foundations of education.

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3. When these two reports are presented at the Santa Barbara meeting that consideration be given to a reconstituted committee formed to pursue the issues more directly related to the philosophical foundations of education.

These several steps in the development of the Committee's work has followed a plan determined earlier. A reconstitution of the Committee should take into account earlier planning as follows: (1) some members of the present committee should be appointed to give continuity to the new committee's efforts; (2) new members who have special concerns in the field of educational philosophy should be added; (3) a new chairman should be named to continue the development of this important field.

The following agenda items for the Santa Barbara meeting were explored briefly:

1. Teaching practices related to the sociological foundations of education
2. Adequate staff assignments in the social foundations fields
3. Implementation of suggestions in the documents submitted

The Committee agreed that the Chairman should ask for time on the next agenda of the Board of Directors to discuss the work of the Committee. The Chairman also will ask for an opportunity for the Committee to report at Santa Barbara.

--John Robinson, Recorder

Section III. Accreditation Procedures

Chairman--Mitchell P. Briggs

The committee session was attended by 49 persons representing a variety of interests from 32 colleges and seven professional organizations. The Chairman briefly reviewed the background of the Committee's formation and restated some of its principal functions as defined on previous occasions. The chief obligations of the Committee are to keep the Council abreast of what is going on in the area of accreditation at both the State and National level and to answer questions for those who wish help with problems pertaining to accreditation in their own institutions.

A recent major development in California has been the formation of a proposal to integrate secondary school and collegiate accreditation. At the present time, California is the only State where secondary education is not accredited by the regional agency. There is a definite need for the high schools of this State to have affiliation with a body of national reputation and stature. Meetings to implement this proposal have been held jointly by representatives of the public and private secondary schools and the Western College Association. The problems are numerous, but much progress has already been made. The next meeting of this group is on December 12, 1960; when, a preliminary statement of policy on a joint working relationship will be reviewed, and a tentative constitution or outline for organization will be studied.

Officials of the California Association of Secondary School Administrators and the Western College Association who were in the group emphasized that both groups were anxious to cooperate in any way possible to form a workable plan to bring practices in line with the rest of the Nation.

In January, 1961, representatives of the Northwest, North Central, and Western College Associations will meet to discuss various aspects of boundary lines. It will be necessary to have a program of secondary school accreditation in operation prior to any changes in territorial responsibility.

The Chairman read a portion of the summary of a report from Section VI of the Annual Meeting of the American Council on Education, entitled; The Appropriate Role of Accreditation in a Period of Rapid Social Change. This report will be published in its entirety in the January issue of the Educational Record. Council members are encouraged to watch for this report and to study it carefully.

From time to time, criticism is directed at the Association for approving, even on a temporary basis, institutions which have a number of obvious weaknesses. It must be remembered that approval does not necessarily mean that an institution is uniformly strong. All have areas of weaknesses. At least we are forced to use the best "informed subjective judgment" possible in helping an institution get started. First steps must be taken to assist sincere people with their program. The Association has a role of helpfulness which it must share. The basic philosophy of accreditation is to invest confidence in worthy people.

Several people pointed to the need and desirability of having better trained evaluators for accreditation visitation. There is need for the best of care in choosing those who will interpret the program of an institution. It is a responsibility of far reaching consequences. It would be desirable to have a special training workshop to assist competent people in becoming more effective in their work among colleges.

In response to the Council's request for a consideration of the preliminary draft of the California Teacher's Association report on the Preservice Preparation of Teachers in California, the Committee calls attention to the following references:

A number of questions were raised concerning a statement of the report on page 7. What is meant by "extensive observation" as requested on line 5? What is meant by "range of observation and supervised practice" as requested on line 19? The most serious question centered around a need for clarification of lines 24 to 29 having to do with the meaning of "broad and representative experiences," particularily as to how much and what type.

A sharp question is raised in the report from page 8 lines 7 to 12 which requests or recommends a college sponsored or owned campus laboratory school for teacher training centers. There is no disagreement with those who have such schools for experimental or specialized demonstration, but there was wide agreement that we should not expect and it would not be desirable for all colleges to have such demonstration schools. Especially, in view of the well-known fact that in recent years the trend has been away from the campus laboratory school in teacher education institutions.

Several persons disagreed with the report on page 3 line 16 where it is stated that "graduate work is an essential part of preservice teacher education." Desirable but not essential was the view held by a majority of the committee.

The tenor of the report is too heavily loaded with an emphasis on training in professional education. For example on page 3, the term "supporting education" is taken to mean the incidental value which is placed on a good two thirds or more of a student's college education typically taken outside of the field of education. There is a rising tide of interest in the broadly educated individual as a prospective young teacher. Any statement of criterion should be consistent with accepted trends widely believed to be the best for teacher education.

Recommendation:

In view of the success which the Western College Association is having with a plan of preliminary accreditation for institutions showing considerable potential, but, admittedly as yet, unqualified for full accreditation, we recommend that the Accreditation Committee of the State Board of Education set up a plan of preliminary accreditation for institutions applying for approval in teacher education similiar to that now used by the Western College Association.

--Harvey B. Snyder, Recorder

Section IV. Television and Teacher Education

Chairman--Garrett Starmer

I. Introduction:

The Chairman reviewed the purposes of the Committee which are as follows:

1. To keep the Council informed about educational television, and particularly about instructional television;
2. To study trends and practices in Educational Television and offer guidance to the Council, where appropriate, concerning television in teacher education;
3. To consider possible methods of implementation of the Guidelines for Teacher Education Institutions in the Use of Television.

II. Reports of Activities in Educational Television:

1. Dorothy Knoell reviewed the status of educational television in the state colleges.
   - a. Existing programs at San Jose and San Diego State Colleges are being continued and expanded.
   - b. Money for television equipment was provided for Humboldt State College, for its occupational program, in connection with the construction of the Language Arts building. The Department of Finance approved the expenditure of previously appropriated funds for equipment in a policy decision in October, 1959.
   - c. Money for equipment was approved for San Francisco, San Jose, and Fresno State Colleges as part of the Governor's 1960 budget, to equip occupational programs. San Francisco is to be provided with an initial complement of equipment, which is not tied to a building program. San Jose was given funds to replace antiquated equipment, again independent of the building program. Fresno included television equipment in its equipment list for the new Speech Arts building which was completed this year.
   - d. Money for instructional television was approved in an augmentation to the Governor's budget, for programs at Los Angeles and Sacramento State Colleges. Funds also were provided for remodeling of existing facilities, for use as television studios. (Funds in the augmented budget also were appropriated for San Jose, although no camera equipment was to be bought with these funds.)
   - e. Authorization for a new State College committee on educational television has been given by the Presidents, together with the appointment of President Siemens as chairman. Planning has taken place for the formation of a joint committee with the University of California and the junior colleges, to do long-range cooperative planning in the field of educational television.

Program Projections

a. Programs and budget requests have been submitted to the Department of Finance, to institute new programs of instructional television at Chico and Long Beach State Colleges in 1961. Funds are requested for initial complements of equipment and minimum staff.

b. Other requests for funds in the 1961-2 budgets are for a campus distribution system at San Francisco State College, for instructional television, and for additional camera equipment for Los Angeles State College.

c. Plans are being drawn for requesting funds to lease several video tape recorders for use in established programs, on an experimental basis. An important part of the experiment would be the production of taped materials for use at Stanislaus State College and, possibly other new State Colleges, to supplement the initially sparse offerings and resources.

d. Programs for using the public schools for observation in teacher education, similar to the program at San Jose State College, have been prepared by Los Angeles and Long Beach State Colleges. A lower priority has been given these programs, in overall budget planning, than the priority given to programs of on-campus instruction by television.

e. No new occupational programs are projected at the present time, with the possible exception of a program at Los Angeles State College with an emphasis on use in teacher education, which would tie into the instructional television program.

2. William R. Rogers reported on the uses of television at San Jose State College

Closed circuit

a. Research: NDEA supported study regarding use of television for observation experiences in public schools; elementary school teacher training.

b. Supplemental to Regular Courses: Special, one-time programs featuring remote or normally unavailable experiences; teacher training.

c. Large Group Instruction: Regular instructors teaching from a studio to many groups at one time (in place of multiple repetitions to several sections of same course); health and hygiene, English, and (possibly) mathematics.

d. Laboratory Classes: Instructor use of small, "slave" camera within his usual classroom. This "projects" models, pictures, etc., to several monitors within the classroom; science.

e. Administration: Administration of admissions testing for several thousand students annually.

Open Circuit (over commercial channel 11, KNTV, San Jose)

a. Inservice-Teacher Training: Regular series of weekly broadcasts featuring audio-visual education, geography, science, mathematics, language arts from education.

b. Science (for College Credit): Lectures by broadcast; laboratories at area schools.

c. School Administration: Extension course for training of school administrators in uses of television.

3. Edwin Lombard reported on television activities at Fresno State College.

Upon the installation of the approved and budgeted television equipment in the new television studios, and the linking of these studios with the five classrooms in the Speech Arts Building, Fresno State College will begin immediately to teach classes via closed-circuit television.

There are in the curricula of the college a number of academic areas where interest has been expressed in offering courses for credit via closed-circuit television. Examples of the types of courses in which multiple sections of classes could properly be taught by one professor via closed-circuit television are as follows:

Economics 1a, Principles of Economics
History 1, Development of Western Civilization
Biology 2a-b, Life Science
Mathematics 27, Elementary Algebra
Mathematics 28, Plane Geometry

We fully anticipate that professors and departments in other areas of instruction will be willing and interested in teaching certain courses via television as soon as proper conditions will permit.

In addition to teaching via closed-circuit, the studios will be used to train teachers in the use of television in the classroom and also who to teach via television.

An open circuit course for television is presently being offered over KMJ-TV in the field of "Investments." Stanislaus State College is joining with Fresno State College in offering this same course for college credit.

4. Norman Ziff reported on status of television at Long Beach State College.

a. A committee is, at present, deliberating about:

(1) Campus department to assume responsibility for facilities.
(2) Courses that may be taught via television
(3) Television activities off campus
(4) Use of facilities to train professionals in the use of television.

b. No decisions have been yet made except to obtain facilities and explore their uses.

5. Garrett Starmer reported on activities at Chico State College.

Chico State College enters its eighth year of open circuit telecasting with five half hour programs a week, including a credit course in Northern California Heritage, a simple electronics series for junior high school, and a series designed to refute in a positive fashion some of the criticisms of modern education. During the past seven years over 850 half hour programs have been presented with more than 200 professors participating.

Anticipating acquisition of closed-circuit equipment, Chico State College is structuring a plan of experimentation and operation, under the guidance of the Dean of Instruction and the television coordinator, which will include several multi-section courses via closed-circuit television and observational uses of the equipment.

6. Arden K. Ruddell, University of California, Riverside, reported on cooperation of the University with the Fontana Elementary School District.

Fontana Elementary School District obtained a portable, remotely controlled two camera unit through NDEA funds. The unit is being used to improve classroom instruction at the inservice level. To date the emphasis has been on methodology and content.

In mathematics in particular, teachers have the opportunity to see some of the topics of "modern mathematics" taught with a group of youngsters. In other areas of the curriculum, the focus has been primarily on good teaching techniques.

7. Brother S. Lawrence reported on closed-circuit television at St. Mary's College.

Experimentation with this educational aid at St. Mary's College is currently limited to the Biology Department. The basic philosophy behind its use in this department is that closed-circuit television within the classroom would seem to be very suitable for demonstrating small objects or the finer structure of large objects to whole classes simultaneously, thus increasing the effectiveness of communication between the teacher and his class, as well as facilitating the multitude of observations that form the basis for the inductive method of this or any other science. This method should eliminate the time-consuming procedure of demonstrating these objects to a few students at a time or the educationally unsatisfactory procedure of postponing demonstration until after the discussion concerning them is over. Experimentation has shown that closed-circuit television is eminently suited for use with the microscope; and thus provides a powerful method for training students quickly and effectively in the use of this instrument, the proper use of which is so necessary for biological and medical methodology.

The biology laboratories at St. Mary's College are being renovated, each to take care of 24 students, with half the class facing the left of the room, the other half the right. It becomes a simple matter to install a receiver at each side of the room, providing adequate viewing for all students. Two receivers are being permanently installed in each of the three main teaching laboratories of the department. Power and signal cables for the receivers in each laboratory are brought down beneath the floor to the instructor's table, where they end at a switch and a receptacle, both mounted on a small panel, which in turn is mounted to the side of the instructor's table.

The television camera is mounted on a tripod head atop a vertically adjustable column built into a 2 by 4-foot table provided with casters so that it can be quickly wheeled into any laboratory in which its services are demanded. Plugging the camera into the panel at the instructor's table requires only a moment, and the system is ready for use.

The experimentation that has been conducted to date indicates that the main problem in making this system completely suitable for class use lies in proper lighting. This is true for both microscopic and macroscopic views. This problem has not yet been solved to the point that the device can be routinely employed, but sufficient success has been obtained to indicate that it is only a matter of time until a dependable lighting system will be involved.

Other problems concern such things as the best means to mount and display the objects being demonstrated. These are too numerous and specific for discussion here.

The Biology Department of St. Mary's College received grants from the Raskob Foundation for Catholic Activites, Inc. and the Roscoe and Margaret Oakes Foundation of San Francisco. The former has provided the basic equipment, while the latter is making available the time that is being devoted by the principal experimenter in this enterprise. The General Electronics Company, of Oakland, California, has aided in the selection of components and in the design of circuits.

8. Bruce Walter reported on open circuit broadcasting for the Los Angeles County Schools.

Seven half hours of instructional television programs are being presented weekly this year by the Los Angeles County Superintendent of Schools as the operating agent for 41 school districts in Los Angeles County, 12 school districts in Orange County, and four school districts in Riverside County. This represents an increase of two half hours per week over the 1959-60 offering. The major emphasis this year is in elementary school Spanish with two half hour programs per week for grade five and two half hour programs per week for grade six. The other three half hours per week are used for six quarter hour programs in the fields of social studies and English.

The Los Angeles City Schools are presenting ten half hours of instruction by television this year. The Los Angeles City programs include six half hours per week of science and two half hours per week of social studies.

9. George Ormsby reported on the status of low-power television broadcasting channels.

The Federal Communications Commission still maintains a "freeze" on the use of low power, multiple channel broadcast transmission equipment. Requests have been presented to the United States Senate for help to school districts in getting low power authorization.

III. Problems:

The following suggested problems for future study and research by the Committee were presented:

1. "Teachers' rights," including teaching load for television courses, assistance to television instructors, payment for re-use of television tapes and films, inter-institutional arrangements, etc.
2. Team teaching to take advantage of the separate and collective power of team members.
3. The need to be able to use mass communication media for areas which they can handle--in which they excel.
4. Recognition that television does not do all things well.
5. Recognition that television needs the support of other media and of instructor preparation and interpretation.
6. Recognition that in the area of mass teaching, of many means of bringing about conformity--many being good--we as teachers must be keenly alert to the needs of the individual and to the espousing of individuality.

IV. Recommendations:

1. It is the consensus that the Council should support authorization to permit state agencies, districts, and county superintendents to own and operate television stations.

V. Specific Action:

1. The Chairman read a section of a letter from Dr. Carl A. Larson, Secretary, California Council on Teacher Education, in which it was suggested that the television committee describe more explicitly what would be involved in the recommendation that "teacher education institutions should include training in the use of television."

   A committee headed by Dr. Schwartz was appointed to bring up to date the "Guidelines" which attempts to spell out the ways this might be accomplished. The Chairman agreed to head a subcommittee to study and define the purposes of the Television in Teacher Education Committee in terms of the progressing role of television in education.

--Edwin Lombard, Recorder

Section V. In-Service Education

Chairman--Fred Schrupp

The Committee on In-Service Education prepared no minutes of its meeting.

The Committee spent its time making plans to terminate its activities and to organize its final report.

--Jean Pogue, Recorder

Section VI. Improvement of Instruction in Teacher Education

Chairman--John Dahl

The Committee had requested that two of the three meetings at Yosemite be closed sessions. The new chairman (John Dahl) in conference with two committee members last August decided that time would be needed to assess accomplishments to date, and to determine next steps for the Committee.

At the preliminary meeting Thursday evening the Committee decided to develop the following statements on Friday:

1. What "We Believe" as a Committee.
2. Criteria for our Committee activities so developments might be applicable to a substantial number of institutions.
3. List the Committee undertakings for the 1960-61 Council year.

On Friday morning the first two of the three steps agreed upon were accomplished. The Committee was helped by having Dr. Brownell re-state the original committee charge.

The open session Friday afternoon was planned to determine Committee undertakings for the ensuing year, and to invite committments for individual responsibilities. It was agreed that the Committee would develop a highly selective bibliography (annotated) on ways of improving instruction in courses in professional education. Glenn Durflinger who has devoted many hours of work to this problem will make assignments to committee members. The second undertaking on which there was unanimous committee agreement was the development of a list of suggestions for a systematic approach to the improvement of instruction within institutions. Some thinking was contributed to this item during the afternoon session. In order to make substantial progress on the two undertakings, committee members decided to meet before the Santa Barbara session in one of three sections of the State to pool findings and to help one another. The Chairman will indicate the person in each geographic area to call such meetings.

It was the consensus that the Chairman should present to the Council's Board in December the committee's interpretation of the charge, immediate next steps of the committee, and some long term plans which are not reported in these minutes.

--Lelia Ann Ormsby, Recorder

Section VII. Teaching Internship

Chairman--Clark Robinson

The Committee was concerned with a careful study of the returns from its questionnaire on possible evaluative criteria for internship programs in the State. Some time also was given to a study of the California Teachers Association statement on teacher education, revised as of October 15, 1960.

Items from the questionnaire upon which there seemed to be either considerable agreement or considerable disagreement were selected for further study. Questions for study were selected as follows:

1. For what variety of reasons are intern candidates rejected?
2. What is the evidence as to the kind and amount of student teaching desirable for the intern? What is the distinction between "student teaching" and "participation" in the various programs?
3. How can we clarify the difference between in-service aspects of teacher education and the need for additional work as a part of the postinternship phase?
4. How can we best secure thorough-going, impartial evaluation of internship programs and of teachers prepared by this method in California?

Four recommendations were then made for the future work of the Committee on the basis of the study of questionnaire returns:

1. Pool existing research to see what has been done; make attempts to see which questionnaire items have been or could be subjects of research, and which items could be reported by description only.
2. Prepare an instrument of self-study, based on material in the bulletin and in the questionnaire.
3. Make an analysis of the total population, past and present, in California internship programs.
4. Take steps to investigate the possibility of securing appraisal and evaluation of California internship programs through some qualified, impartial agency. The Committee feels that since the fifth year in teacher preparation seems assured, it is imperative that it secure the most definitive answers possible to the questions relating to the effectiveness of internship as a means of teacher preparation.

The group was divided into two subcommittees for interim study of the above question and were asked to report at the Santa Barbara meeting. Donald Wilson and Arthur King were appointed co-chairmen, south; Wesley Sowards and Sister Rosemarie Julie, co-chairmen, north.

--Dorothy Blackmore, Recorder

Section VIII. The Function of the Laboratory School in Teacher Education

Chairman--Andrew Rippey

The Committee discussed the recommendations given at the 1960 Santa Barbara spring meeting and recommended that an announcement be made at the Friday night general session informing the Council that individual members would be receiving a questionnaire from the Council's secretary.

The members of the Committee concurred with the action of the Board of Directors on setting up an exploratory committee to look into the possibility of a statewide clearing house on research that could be carried on in laboratory schools. It was unanimously resolved that the committee recommend the following people for membership on this exploratory committee: Andrew Rippey, Elias Wiebe, Dan Cappa, and Corwin Bjonerud.

These people were recommended because they represent the following: (1) a member of the present committee, (2) a person from a private institution, (3) a person from a state college not having a laboratory school, (4) and a person who is actively engaged in the administration of a laboratory school on a state college campus.

Considerable discussion was carried on in regard to the interest in the establishment of new laboratory schools on state college campuses.

The Committee resolved unanimously that Chairman Rippey draft a letter to the California Teachers Association commending and endorsing its stand on research and laboratory schools as a necessity for all teacher education institutions.

On Firday morning the Committee concerned itself with a discussion of some of the qualities that are inherent in a laboratory school in regard to carrying on research that could not be found in public schools. The following points were brought out:

1. The threat of the outcome of research studies would not be as prevalent in a laboratory school as it may be in a public school.
2. The laboratory school is a place where curriculum can more easily be controlled.
3. Because of the high quality experienced faculty in laboratory schools, research might be more safely carried on.
4. The public relations situation present in a public school add a considerable amount of additional effort to the establishment of any type of research.
5. Other departments of a university or college are available to assist with any type of study undertaken.
6. Cooperation in research projects by the various laboratory schools in the State can be facilitated.

7. The potential is greater in a laboratory school for grouping children for purposes of research.

8. Instructional materials and laboratory facilities are more accessible and varied in a college associated school.

9. The laboratory schools are in the unique position of being able to facilitate dissemination of research information.

10. Any positive results that may be obtained may be better transmitted to students who will eventually be able to put these results into practice in the public school classroom.

The last action of the Committee was to charge each person in attendance with the responsibility of determining possible research problems which could be carried on in laboratory schools. These problems are to be forwarded to the Chairman so he can develop an agenda for the 1961 spring meeting.

--Corwin E. Bjonerud, Recorder

Section X. Exploratory Committee on College and University Faculty Procurement

Chairman--Olaf H. Tegner

Origin of Committee:

The idea for an Exploratory Committee on College and University Faculty Procurement was an outgrowth of a recommendation from the Bay Area Subcommittee of College Recruitment of the Council's Committee on Teacher Recruitment and Selection. This was recommended to the Council's Board in Santa Barbara, and the Board appointed Olaf Tegner, Pepperdine College, Chairman; Albert Lepore, Alameda County State College; Hilda Taba, San Francisco State College; and Stephen Goodspeed, University of California, Santa Barbara, to explore the possibilities of forming a joint committee of the Western College Association and the California Council on Teacher Education to study problems of teacher recruitment in the field of higher education. In its discussion of the need for such an exploratory committee, members of the Board agreed that the preparation of college and university instructors might perhaps also become an area of study for the joint committee.

New Name for the Committee:

In order to avoid duplication with other committees, and to define more specifically the charge of this Committee, the group decided to change the name from Exploratory Committee on College and University Faculty Procurement to Exploratory Committee on Staffing Institutions of Higher Learning.

Focus of Committee:

1. It should begin with teacher education, and develop a broader scope as the need arises.

2. It should use an all-institutional approach for effective procurement of college personnel.

3. In the area of staffing, recruitment of full-time and part-time personnel should be considered as well as the utilization of existing staff.

4. Corporate arrangements should be investigated with reference to accredited and non-accredited schools, large schools and small schools, public school personnel with a master professor as coordinator, and the use of instructional technology.

Basic Questions to be Considered:

1. With what areas are we concerned? In teacher education only or in the other disciplines as well?

2. What kinds of people do we need?

   a. Where are the shortages?
   b. What are the crucial trends?
   c. What backgrounds are most needed?

      (1) practical experience
      (2) depth in a discipline
      (3) supplement of professional education

3. How do we get people?

    a. Team teaching (young person with professor having a certain competence.)
    b. Internship with small colleges.
    c. Small colleges subsidizing doctoral candidates with contract to come back and teach.
    d. Sharing of staff by several colleges.
    e. How do we develop teachers we now have?

4. What problems cut across all these areas?

    a. Where are the blocks?
    b. How can blocks be eliminated?

        (1) credentials
        (2) encouragement
        (3) salaries
        (4) cultural recognition
        (5) job requirements-training

5. Where do we start?

    a. Target groups
    b. Scholarships
    c. Subsidies for graduate students

6. What are the best general methods of attack?

7. What is being done at the present time?

    a. It was suggested that we investigate studies made by the California Teachers Association, the National Education Association, the Commission of Teacher Education and Professional Standards, and the brochure from the Bay Area Subcommittee on College Recruitment. (The latter will be obtained by writing to Enoch Dumas and Ellen Deering.) It was also suggested that an annotated bibliography be obtained from Blair Hurd, State Coordinator of Teacher Recruitment.

Meeting with Mitchell Briggs:

In order to get a reaction to the possible work of this committee in the future, it was suggested we invite Mitchell Briggs, Executive Secretary of the Western College Association, to express his views to the Committee. Dr. Briggs' statement follows:

1. There is no Western College Association committee working in this area at this time. At the present time, faculty procurement is handled in each college by the President or the Dean.

2. There seems to be adequate placement at the present time.

3. This exploratory committee should check on the North Central Accrediting Association to see what they have done in this area.

4. This committee should continue to meet, and as soon as possible, present to the Western College Association the reasons for the establishment on a joint California Council on Teacher Education-Western College Association committee.

Appointment of Subcommittees:

The following subcommittees were appointed to explore the specific area assigned to them and make a preliminary report at the next meeting of the committee in April, 1961, in Santa Barbara.

Committee #1 (Northern California-Lepore, Taba, Gilbaugh)
Research in Staffing Higher Education

Specific Questions:

1. What blocks, repels, attracts, etc., candidates in regard to seeking teaching positions in higher education?

2. What are the actual shortages in this field?

Committee #2 (Southern California-Georgiades, Tegner, Lucas)
Utilization of Existing Staff

Investigation of:

1. Joint institutional programs
2. Reorganization of existing staff
3. Instructional technology

Committee #3 (Central California-Gilbaugh, Wallace)
Recruitment

Investigation of:

1. Pros and Cons of part-time help
2. Unexplored channels

Agenda for the 1961 Spring Meeting in Santa Barbara:

It was suggested by the group that the meeting in Santa Barbara be a closed session. The following would be the agenda:

1. Preliminary report of three subcommittees.
2. Restatement of initial questions.
3. Further discussion of the literature.
4. Summary of what has been done by the committee to date.
5. Suggestion of problems for further research.

--Pat Lucas, Recorder

Report of the Committee on Teacher Assessment and Research

Chairman--Garth Sorenson

This Committee, recently a part of the Committee on Teacher Recruitment and Selection, held its initial meeting to define its function, establish procedures, and discuss membership. Committee members are: Garth Sorenson, University of California, Los Angeles, Chairman; Alice Breslow, University of California, Berkeley; Don Ericksen, Reedley College, California Teachers Association; Ken Rowland, Modesto Junior College, California Junior College Association; Joe Smith, Chico State College; Margaret Sutherland, University of California, Davis; Phyllis Watts, Fresno State College; and John Gowan, San Fernando Valley State College.

The functions of the Committee were defined as follows:

(1) Fact finding: to find out what the present assessment practices in the colleges of California are

(2) Communication: to provide information on programs of assessment throughout California to the colleges

(3) Research: to determine what we need to know to do a better job

(4) Policy: to suggest policy to the California Council on Teacher Education

The Committee began by noting and discussing the generally unsatisfactory results of research regarding personal factors relating to teaching effectiveness.

The Committee spent the major portion of its time in discussing alternatives to this point of view. Suggested alternatives included the development of theses: (1) involving different concepts of the effective teacher held by the academic professor, the education professor, the supervisor, the master teacher, the superintendent, the pupil, the parents, and the teacher himself; (2) the multi-factored aspects of the criterion; (3) the development of teachers' own value systems rather than reliance on public value systems; and (4) the description of "successful" behaviors in teachers through various methods.

The Committee gave each of its members homework assignments for the 1961 spring meeting, and disposed of other procedural matters. It felt that another planning session would be useful before any further action is taken regarding additional membership.

The Committee sees its task as requiring several years to complete and as involving the use of resource persons both within and outside the California Council on Teacher Education.

--John Gowan, Recorder

Report of the Second General Session

RESOLUTION UNANIMOUSLY ADOPTED BY THE CALIFORNIA COUNCIL ON TEACHER EDUCATION AT ITS 1960 FALL CONFERENCE, YOSEMITE NATIONAL PARK IN RECOGNITION OF HERSCHEL S. MORGAN

WHEREAS, The licensing of individuals to practice a profession is a key State responsibility, and

WHEREAS, The quality of the agency responsible to perform this function for the teaching profession is of paramount importance to the welfare of our society, and

WHEREAS, Herschel S. Morgan has served as the head of this agency in the California State Department of Education for the past 18 years, and

WHEREAS, He has won respect and distinction for himself, the agency, and those doing similar work in County and District Offices and teacher education institutions by his fairness, his integrity, his judgment, and his devotion to duty, and

WHEREAS, He has untiringly traveled throughout California to develop understanding of the technicalities of credential regulations and to provide leadership in credential enforcement, and

WHEREAS, As a result of his stature in the certification field he has become widely known and widely hearlded as "Mr. Credential,"

BE IT THEREFORE RESOLVED, That this organization, the California Council on Teacher Education, to which he has given continuous service since its inception, salutes and commends him for his outstanding contribution to the teaching profession by here and now, rising and tendering a standing ovation.

"Types of Teaching Machines"

--Sidney C. Eboch, Assistant Professor of Education,
San Jose State College

My purpose this evening is to provide the background for the remarks of the main speakers. This is merely an introduction to the topic. Some of the variety of viewpoints regarding the teaching machine "movement" will be developed by the panel.

In order to provide some background for my presentation, I have three brief quotations. One is from a magazine concerned with the industrial potential of teaching machines; two are from psychologists, each of whom have a least three years experience with machines and programming techniques.

First, the magazine:

> "As a business, the stakes are high. In general education alone, someday, each of the (36 million) students attending classes each year in the United States will receive part of their schooling from automatic teaching machines... As yet the infant industry has reaped only paltry returns, but builders of teaching machines expect to crack the military market this year, then industry, and finally the rich school market. One company predicts $100 million annual sales by 1970."

Now, one of the psychologists:

> "The teaching machine idea and technology will make it possible in a very few years for any parent to say to the schools: If you don't do the job we want done, we will start our own schools."

Finally, the second psychologist:

> "Rule 1. If you don't have a gadget called a 'teaching machine,' don't get one. Don't buy one; don't borrow one; don't steal one. If you have such a gadget, get rid of it. Don't give it away, for someone else might use it."

It looks as though educators must make a choice before they "pays the money."

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The field of teaching machines is about 35 years old. But widespread interest has arisen in the last three years. In one sense, teaching machines are very "new" to most people in education. Already, some confusion exists over the choice of terms. "Teaching machines" has become the popular term, although there is a preference among some persons in the field for "automasic teaching" or "auto-instructional devices." For this presentation, we will continue to use the popular term.

The use of words such as "machines" and "automation" has created some fears among teachers. Terms such as these create fears about jobs and fears about "de-humanizing" teaching. Yet, automation has been present in teaching for some four hundred years.

The textbook is a form of automatic teaching. Someone has said: With the invention of the textbook, the lecture became obsolete. College teachers could debate this question, but they would not argue the value of textbooks.

Lectures are more than traditional. They can be very effective and highly efficient in teaching. However, lectures have some disadvantages for learning.

1. The lecture is a group device. The speaker must always consider the total audience. Some listeners will be lost; others will not be challenged.

2. The pace of learning is controlled solely by the speaker. The speed and depth of the presentation is instructor-oriented.

3. The presentation is given once, and the student must do the best he can.

Textbooks can provide the same transmission of information which occurs in the lecture. And texts can do it with improvements over the situation described.

1. The student can proceed through the text at his own pace. Easy material can be covered quickly; more difficult material can be covered slowly.

2. The student can repeat the experience frequently if more time or thought is needed. The student has repeated access to the instructor--the author.

Thus, textbooks are a form of automated lectures.

In spite of these advantages, we know that books can be poorly written; books can bore; readers can be distracted. We have all known texts which were informative and exciting, but we have not given up the search for better teaching materials.

In the past 60 years we have seen a "communications revolution" in our society. Motion pictures, radio, television, and recordings have all arrived with tremendous impact in this century. In the schools, we have called the materials associated with this revolution "audio-visual aids." We are all familiar with the slides, filmstrips, disc and tape recordings, motion pictures, and similar tools for learning.

Audio-visual materials could be considered a form of automated instruction. In one sense, they replace or supplement the instructor's functions, at least during the time of their use. These aids provided us with new codes--graphic and sound elements which were not common or available to instructors in other days. These tools provide non-verbal elements, variety in materials, and clarification of abstrations.

However, these new media reinforced some of the older problems. Audio-visual materials are most commonly used with groups because of the inconveniences associated with equipment. The nature of the materials has frequently meant a return to one-time use. Even the fixed pace returned. A ten minute motion picture lasts ten minutes--no more, no less. These teaching conditions are not inevitable or even required, but they have been common in the use of audio-visual materials.

Audio-visual materials have not always been respected by persons inside or outside Education. Perhaps some of the criticism has been deserved because of improper use.

For with audio-visual materials--as with the lecture, and the textbook, and with teaching machines--the crucial question is the proper use for learning.

Let me attempt to summarize. One point of view about "teaching machines" could be:

1. Automation in education is as old as the textbook.
2. When we speak of automating instruction we are talking about materials used in the teaching-learning process.
3. We are talking about the function of materials--how they work and what they can do. We are not talking about the form of materials, except as that form contributes to function.
4. Finally, we are talking about method. We are concerned about better ways to teach.

From this viewpoint, then, let us look at the mechanics--the machines--and what they do with and for materials.

Machines have been developed through two primary sources. The armed forces have developed several machines to be used in the enormous and complex training problems the service face. Machines also have been developed in the experimental research laboratories of leading universities, primarily by psychologists. The "father" of the teaching machines movement is Dr. Sidney Pressey who first devised a testing machine in the early 'Twenties at Ohio State University. The current "leader" of the field is Professor B. F. Skinner of Harvard who has been the major impetus in the current movement.

The primary function of the machines is to present minute bits of information to students in an organized sequence. The machine controls the amount and the order of the information presented. The materials used in the machine require the student to respond to each item of information presented. Thus, essentially, the machine transmits information to the student and requires the student to participate in the process.

Machines could be classified in two major categories according to sequential controls. One type of machine and material requires every student to respond to every question in the same fixed order. Every student gets every question or bit of information in precisely the same sequence. This type could be called linear machines or linear materials.

A second type of machine or material could be called branching. This machine would require the student to proceed through a sequence of information--questions according to the type of response--answers given by the student. When the student makes an incorrect or inferior response, he is given a set of information items and questions which help him to understand and correct his error. Thus, different students would proceed through different branches of questions, off the main "trunk" of questions which everyone would get.

In addition, machines and materials might be classified according to the type of response required of the student. Some machines and materials require students to construct or create the answer-responses to the information-questions presented. Other machines and materials require students to select a response-answer from several alternatives presented.

These types of response-requirements have been called "constructed" (where the student writes or constructs his answer) and "selected" (where the student chooses his answer). Teachers will recognize these situations as being similar to the completion or fill-in-the-blank tests and multiple-choice tests.

Not every machine or device can be properly called a teaching machine according to the current meaning of the term. Some devices are merely "presentation" machines. They present information in a pre-organized sequence, but they do not require participation or provide any controls or adaptations according to the student's response.

True teaching machines attempt to perform, at least in part, most of the following functions:

1. The machine establishes a one-to-one relationship between the instructor and the student. A small item of information is presented to the student as an individual.
2. Participation is required during the entire presentation. The student must respond to each of the small items presented. In some cases he cannot proceed until he has given the correct response.
3. Pace is controlled by the student. The machine cannot proceed until the student permits it to do so.
4. Immediate and positive reinforcement is provided throughout the entire process. Since the items are small and well organized, the student's responses are more often correct. The student knows how well he is doing immediately.

The ability of machines to perform these functions of good teaching has caused some fears among professionals. Reactions of this sort have been human since the second cave man resented the introduction of the shovel. However, some knowledge of the work required by the teaching machine process might dispel such fears.

A completely automated course has been described. A six weeks course for foreign students to learn English has been prepared. This course, theoretically, does not require the presence of a teacher. It involves some forty films, hundreds of tape recordings, study manuals, workbooks, texts, tests, and other typical materials. The time required to plan, organize, and "write" this course has been described as two and one-half to three years of man hours. In other words, thirty days of student work required three years of instructor work.

One company has been willing to estimate the production requirements for a one year course in one subject matter area: two men working full time for a year and associated costs of $20,000 was considered a conservative figure.

The preparation of materials for teaching machines is costly and difficult work. There will not be less work. There will be more work of a different kind.

As was said earlier, the heart of the matter is materials not mechanics. The preparation of materials is called "programming."

Programming has been of two primary types: Linear and Branching. Each type of program, whether fixed sequence or variable sequence, is a series of minute items of information and questions which require responses. These items have been called "steps."

Each step includes most of the following parts:

1. The student is told the correct answer or response to the previous question. This is usually a "positive reinforcement" and it acts somewhat like a drill device.

2. New information is provided. This may repeat prior information and add new concepts. It may be a new application of information previously given. It may be completely new material.

3. A new question is posed; another response is required.

4. The student is directed to the next step of the program.

In responding to these steps the student may construct or select answers. Many types of question and answer forms are possible. Selected answers, for example, might include "I don't understand" as an appropriate response. Constructed answers might be assisted by "cues" which indicate part of the desired answer. These cues might be slowly "vanished" (or reduced) through a whole series of questions which required the same response.

The variety of possibilities in program construction has not been fully explored in the three years of intensive work just being completed.

Some of the problems and potentials of the machines and programs and teaching machine concepts will be more fully developed by the panel. It is especially appropriate that we have a philosopher and a psychologist on this panel. Programming is a modern form of the Socratic method, the tutorial process adapted to materials. And the modern development of the machines associated with this old idea from philosophy has come from the experimental work of research psychologists.

"Auto Instruction"

--Evan R. Keislar, Associate Professor of Education,
University of California, Los Angeles

I am not going to give the talk that I planned to give tonight for two reasons. One is that it is already a quarter to nine and there is not enough time to present an adequate picture of the research which we have been doing at the University of California, Los Angeles. But the main reason I am going to change my speech is that I am anxious to remedy what might be a misconception about this field of auto-instruction. I want to make it very clear that teaching machines are not at all central in auto-instruction. They merely provide a mechanism by which materials can be presented and for most purposes nothing more than a book is necessary to present auto-instructional materials. Auto-instruction has no more to do with machines than an idea does with the paper it is written down on.

Very broadly speaking, auto-instruction simply involves teaching pupils with no direct contact between the pupil and the teacher. This communication with a pupil who is distant in time and space is possible because of the advances in the technology of recording and communication. The advent of the printing press, for example, made it possible for a teacher to teach students far removed from him in time and space. Other advances in providing records through still and motion picture photography, through sound recording, and, most recently, through television, have extended the possibilities of such indirect teaching.

But these mass media devices in their educational functions limit the relationship between teacher and pupil to a one-way contact. The pupil receives a communication from the teacher, but he gets no information as to how the teacher might react to his own responses.

Auto-instruction provides a two-way interaction between teacher and pupil even though the teaching of the pupil is carried on at a distant time and place. The significance of what the teacher communicates to the pupil depends upon how the pupil has reacted to the previous communication just made. Since each pupil responds differently, some more quickly than others, auto-instruction is primarily an individual method of teaching. It can, however, be adapted easily for group teaching purposes, if desired.

You may well ask, "How is it possible for a teacher to have a two-way interaction with a pupil with whom he is not in direct contact, a pupil to whom he must communicate entirely through recorded devices?" It is true that this two-way interaction is highly restricted. In some methods of auto-instruction the student's responses are scored only right or wrong. But in other methods different information or questions may be presented depending upon the kinds of answers the student gives. Auto-instruction, then, permits a closer approximation to the two-way interaction found in the usual teacher-pupil relationship. This is possible because the teacher who is preparing the record to be used later to teach pupils, anticipates the kind of responses pupils will make. The "feedback" given to the student is then recorded for all the kinds of responses the specific approach can handle. This anticipation of the students' responses is never purely on the basis of guesswork; it is possible to find out whether the anticipated responses do in fact occur by trying out the teaching program, over and over again if necessary, with typical groups of students. Continual revision in the program can then be made.

This brings out the fact that any pupil in elementary school is being taught by a number of teachers. Central, and most important, is his classroom teacher. But there are other teachers who are influencing the child, teachers who wrote the books he reads, those who prepared the motion pictures he sees, and, in a few cases, teachers who prepared the auto-instructional programs from which he is also learning. These other teachers may not be present in person, but they are teaching indirectly nevertheless. In a sense they are important classroom assistants to the teacher. They may be used by the classroom teacher to help her attain her objectives. At this moment, it appears that auto-instructional methods may be of tremendous assistance to the classroom teacher if properly developed and used. Auto-instruction may be far more efficient than other assistants because it more closely approximates the teaching situation.

We should make it clear at the outset, then, that auto-instruction is an approach to teaching which is at all times under the control and direction of teachers. It should be seen for what it is, a potentially very valuable assist to the classroom teacher, an approach which does some teaching jobs efficiently, but a method which requires teacher supervision, careful coordination with other teaching activities, and continual support by the teacher.

On the other hand, we should not regard auto-instruction as an inferior version of teaching. For some kinds of learnings, we teachers might learn a good deal from the approaches offered by auto-instruction. For this technique of educating is based not only on good educational practices but on fundamental learning theory. Many of the principles underlying auto-instruction come from the psychology of learning and deserve a fair, thorough hearing. Auto-instruction is more than a new gadget approach to education; it represents an attempt to apply scientifically what is known about the learning process. Many teachers who have sat down and prepared material for auto-instructional teaching report that their own classroom teaching was strongly affected; they had found so much of merit in this approach that it became part of their own teaching skill.

General Description of Auto-Instruction

For persons who are interested in a more thorough discussion of the field of auto-instruction than is permitted this evening, I would like to recommend a book on auto-instruction just published by the National Education Association. The book is entitled Teaching Machines and Programmed Learning, by Arthur Lumsdaine and Robert Glaser. It brings together almost fifty articles, many of them written especially for this volume.

All methods of auto-instruction provide the following features:

1. The learner is given a carefully organized sequence of questions accompanied by greater or lesser amounts of information.

2. After each question the learner responds overtly. Some record is made of this overt response.

3. An evaluation of the learner's response is immediately supplied. While it may be merely a "right or wrong" evaluation, sometimes this evaluation includes an explanation of why the learner is right or wrong.

Auto-instruction differs from the use of films, televised programs, or ordinary books in that the learner must make an overt response. In these other approaches pupils learn because of implicit or covert responses. (But these frequently do not occur as hoped for and inefficient teaching results.) A second difference is that there is a feedback for this response; the learner finds out immediately whether he is right or wrong (and, in some methods, why). This does not usually happen in general when films or television programs are used. Auto-instruction is similar to books, films, or televised programs in that considerable care must go into the preparation of the sequence of questions and information to be presented to the learner.

The most important feature of auto-instruction lies in this sequence of questions which are asked. This sequence usually takes the form of a series of very short items. Each item includes a question requiring either a multiple-choice or a completion-type answer. In this item may be given other information to help the learner get the item right; this information, if used, will presumably help the learner to answer other items later.

The critical aspect of this sequence is that the items are carefully written so that the learner is encouraged to give the correct answer each time. The step from one item to the next is so small that the learner can always generalize. Having gotten one item correct, the learner is now in a strategic position to get the next item correct In this way, by the use of very small steps, the learner is helped to answer questions which he never could have answered at the beginning.

Auto-instruction, then, requires that the learner be constantly active. It also provides the learner with a maximum of success as the questions change. The knowledge of results comes immediately after he makes the response each time; there is no waiting until teacher can correct the papers. This high degree of success which the learner obtains is guaranteed by the preparation of the program. Items are revised in the early try-outs until all pupils for whom the program is intended actually do show a high degree of success. Items which appear too difficult are altered or are preceded by other items to lead up to this difficult item. The item then remains no longer a difficult one; success on it is assured through the use of small steps between the items.

The distinction between workbooks and auto-instructional teaching lies primarily in this program. It is true that a few workbooks provided immediate knowledge of results (students could look up the answers in the back). But the crucial difference lies in the use of small steps. Workbooks, even when arranged in a sequence, never provided the large number of items (and hence small steps) found in current auto-instructional programs. Since auto-instructional programs have anywhere from five to ten times as many items as the best workbooks, there is really little comparison. Workbooks were designed for use along with other instructional materials; they provided extra practice. The auto-instructional teaching programs do far more than this.

The books I have in front of me are examples of auto-instruction. They are called programmed textbooks, so called because they present a carefully programmed sequence of questions to the student. To each question the student makes a response and then finds out on the page following whether he was correct or not. This book, English 2600, consists of series of 2600 questions designed to teach the student English grammar. Other books like these are available in statistics, foreign languages, fundamental of music, and spelling, to name only a few. Komoski, after working with elementary school pupils in arithmetic, has concluded that we need no mechanical equipment whatsoever. Programmed textbooks like these seem to be adequate.

Special Features of Auto-Instruction

One of the most exciting aspects of this field is its research orientation. Notice first that auto-instruction provides a complete record of the teaching process, so complete that it can be replicated and thus thoroughly tested and evaluated. Every program is, therefore, highly vulnerable to public scrutiny. In this fashion, the strong and weak points of the teaching are more easily exposed.

But this evaluation of a program is not simply carried out by armchair spectators. It is created by actively trying out the program with a sample of learners. No matter how good a sequence of questions may look, the real test is whether the students learn from such a program.

1. In education we have lacked the advantages of carefully controlled research, and hence research in the curriculum, for example, has required the use of a large number of schools and teachers in order to randomize the teacher variable. But with auto-instruction it is possible to do excellent research in the curriculum with only fifty pupils, if these constitute a representative sample of the desired population. Perhaps the greatest impact of auto-instruction will be as a research tool for education.

2. A second important feature of auto-instruction is that the programmer gets "feedback" from the learners. He can then find out where his program of instruction needs revision. There is, in auto-instruction, this built-in self-correction feature, one that is not available in textbook writing or film producing, or even in regular classroom teaching. While some of the programs available today are poor, it is most heartening to notice that revisions should make these programs increasingly more effective. In fact, it may be that once we have a good program, it does not make too much difference whether the pupil responds overtly or not.

3. A third promising feature of auto-instruction is to be found in its individual tutoring. Since each pupil is permitted to go at his own pace, the more capable students can spend less time on the elementary programs. Slower students, on the other hand, are not unduly burdened. It even seems probable that we will develop different programs at every grade level for different kinds of students. One program might well be a difficult one requiring a higher reading level so as to keep the better readers properly challenged. Another program might be written at an easy reading level so that the slower students would be given materials of appropriate difficulty. It may even be possible to prepare programs suited to the different interests of students. In fact, some experimental programs now in existence permit the student to choose for himself the particular aspect of the topic he decides is most valuable to him.

4. Not only does auto-instruction provide for complete mastery of a highly specialized response such as spelling or arithmetic combinations, but it is particularly appropriate for the teaching of concepts, principles, and even theory. This is because the acquisition of understandings like these requires a large number of illustrations, a wide variety of statements of the same relationship, and many, many associations or ways of "viewing" within a topic. To teach understanding, therefore, we must be sure that the learner answers successive new samples of

items until he demonstrates an ability to answer at the desired level of proficiency a brand new sample of items on the topic involved. Because the large number of items offers both variety and reviews, auto-instruction can build a "network of meaning" for the learner. In fact, John Barlow at Earlham College is undertaking a program which is designed to teach independent critical thinking.

5. Because auto-instruction is carefully paced to the individual student, the learner encounters a large amount of success. Where errors may be planned for, the learner should always find these of instructional value. Already it is evident that students enjoy learning, and, hence, the subjects where they are successful and do not continue to face failure. Auto-instruction promises to maintain high motivation. Merely getting the right answer, however, is not enough. The student must see that what he is learning is valuable to him. In conjunction with the auto-instruction program, teachers can provide activities which will demonstrate the value of what is being learned, but, of course, the most important factor for maintaining motivation is the program itself. A well-prepared program will use humor, novel situations, paradoxes, challenging problems, as a way of maintaining learner performance. An auto-instructional program, then, like a book, may be insipid, dull, and lifeless or inspiring, artistic, and thought-provoking.

6. Because auto-instruction promises to take over much of the burden of routine teaching, classroom teachers will be freed to deal with specific problems of individuals, to spend more time promoting creative activities and encouraging individual projects. Auto-instruction promises to make education more personal and more individualistic than ever before.

"Shall We Mechanize the Classroom?"

--Fred. T. Tyler, Associate Dean, School of Education,
University of California, Berkeley

A call to mechanize the classroom is not new. S. L. Pressey advocated it 35 years ago; but Pressey's "industrial revolution in the schoolroom" has not come about, even if some are sure that it is now on its way. Recently, B. F. Skinner, the distinguished Harvard psychologist, has become one of its chief spokesmen. In 1954, we find him writing along these lines:

"We are on the threshold of an exciting and revolutionary period... Education must play its part. It must accept the fact that a sweeping revision of educational practice is possible and inevitable." "There is a simple job to be done." "The equipment needed can easily be provided. Nothing stands in the way but cultural inertia." "There is no reason why the schoolroom should be any less mechanized than, for example, the kitchen" (4, p. 157).

The equipment to which Skinner refers is the main topic of my paper this evening. As we have already seen, teaching machines have three essential characteristics:

1. They present, on "command," the questions or statements which together make up the curriculum, and they present them in an ordered sequence.
2. They provide a means whereby the pupil can record his responses.
3. They, thereupon, immediately "advise" the pupil of the correctness of the response.

Before proceeding, I wish to make it clear that what I have to say does not mean that I am opposed to teaching machines. But I am concerned about their wholesale introduction into the classroom at the present stage of their development, as some seem to advocate. I shall refer again to this point a little later in the paper.

Now it may be thought that teaching machines and their curricula are based upon a definite theory of human learning. It is one of my purposes to consider the extent to which this is so.

I propose to discuss only Skinner's psychology of behavior, since Skinner and his students have made one of the most serious attempts to apply a set of psychological principles to teaching by means of machine. Since we cannot consider all the relevant experiments, I shall limit myself to very brief statements about three investigations in order to illustrate two of Skinner's basic principles for producing what he calls operant behavior.

First, behavior is changed by progressive approximations to the desired response; and

Second, behavior is established and maintained through reinforcements.

Skinner believes that our schools fail to produce high levels of competence in pupils because teachers do not present the materials of instruction in sufficiently small, ordered units, and because they are unable to provide adequate amounts of reinforcement.

In order to follow the experiments we need to understand two expressions:

1. Operant behavior. This term refers to a class of responses. The responses may not be identical, but they are all very similar--as for instance, the raising of its head by a pigeon to some minimum predetermined height.

2. Reinforcement. A response is said to be reinforced if some change occurs in the environment immediately after the response is emitted by the organism. For instance, food is a reinforcer for a pigeon that has been deprived of food if the food appears immediately after the pigeon has emitted the desired response of "head-raising." The response is said to have OPERATED on the environment. Likewise, pupils are said to be reinforced when they are told by some means that a response is correct immediately after they made the response.

Experiments in Operant Psychology

Now for experiment one. Skinner reinforced a pigeon by giving it food each time it raised its head above some arbitrary height, say "x" inches. Having established that operant, he gave the reinforcement only after it lifted its head "x + y" inches. Later, the food appeared only when the head was raised "x + y + z" inches, until finally the pigeon frequently lifted its head above the height selected by the experimenter. Step-by-step changes in the behavior (that is, successive and necessary approximations) and immediate reinforcement after each desired response are essential for the establishment and maintenance of this operant.

In the second experiment, Skinner trained a pigeon to strike at a disc on the wall of its box. Again, this operant was established in a sequence of steps. Behavior was reinforced by food when:

First, the bird turned slightly toward the disc; then, only when it moved slightly toward the disc; next, when it moved closer to the disc; later, when it moved its head slightly; and, finally, when it struck the disc.

Notice that the bird had to emit the response. There was nothing in the environment that would elicit disc pecking. In the case of Pavlov's dogs the situation was different. In his experiments, the food elicited the response of salivation. Similarly, a lemon will elicit salivation. In Skinner's experiment, by contrast, there was nothing to make the pigeon strike the disc, at least until after the first reinforcement. The experimenter has to wait patiently for a first approximation to a reinforceable response. He could not elicit it; the bird had to emit it. But the pigeon does not raise its head when not hungry.

In a third investigation, Skinner trained a pigeon to strike the disc only when a light was turned on. The light became a signal for certain responses, somewhat similar perhaps to prompting, coaching, or asking leading questions in the classroom.

In summary, to produce these operant behaviors the experimenter must:

First, await the appropriate response or a reasonable approximation to it;

Second, reinforce that response immediately; and

Third, reinforce later responses as they gradually become more and more similar to the behavior ultimately to be established.

Just as an experimental psychologist can establish operant behavior in lower animals in the laboratory; so, too, it is said, we can by similar techniques establish desired responses in school children. Proponents of these methods believe that we can attain our goals only by means of machines because it is only through mechanical equipment that we can provide both the succession of small units of the curriculum and the large amount of reinforcement necessary for each pupil.

Teaching Machines

Let us look now at the general features of teaching machines and at two or three curricula. Many machines in current use enable the pupil to select one response from several choices. I shall have nothing to say about this type of equipment because it has no support in Skinner's psychology, and for two reasons:

In the first place, Skinner thinks that pupils should compose their own responses, not simply select them; for him, a response should be a matter of recall rather than of recognition. In the second place, multiple-choice curricula contain "wrong" answers; and Skinner maintains that these are dangerous in the very delicate process of shaping human behavior. He is convinced that an undesired response, that is, an incorrect choice, can become established simply by reason of its occurrence and its attachment to some accidental reinforcement. You may recall that Thorndike advocated a similar principle, one which has been refuted by several investigators.

For these reasons, Skinner recommends that a pupil be required to propose his own response by using letters or numbers on sliders, or by writing his answer in the appropriate space on a tape.

Curricula for Teaching Machines

Let me now describe parts of programs designed to teach spelling, arithmetic, and physics.

Teaching Spelling. According to one plan, the following steps are used to teach a child to spell "manufacture" (4, p. 165):

	Instruction in the machine	Pupil's response
Frame 1.	Manufacture means to make or build Chair factories manufacture chairs.	Copy the word here ☐☐☐☐☐☐☐☐☐☐☐
Frame 2.	Part of the word is like part of the word factory. Both parts come from an old word meaning make or build.	manu ☐☐☐☐ ure
Frame 3.	Part of the word is like part of the word manual. Both parts come from an old word for hand. Many things used to be made by hand.	☐☐☐☐ facture

Frame 4. The same letters goes in both spaces. m ▱ nuf ▱ cture

Frame 5. The same letters goes in both spaces. man ▱ fact ▱ re

Frame 6. *Chair factories* ....*chairs*. ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱

Now permit me to comment briefly upon this program and on its relationship to operant psychology.

1. The bird raised its head *when it raised its head*, under no direction from the experimenter; the pupil wrote certain *responses* after the machine provided the *instructions* and indicated the desired response. Are these situations comparable? That is, is machine-teaching the same as experimenter-waiting?

2. In order to be conditioned to raise its head "x" inches, a pigeon must raise it through distances that are less than, but vary continuously up to, "x" inches. Does a similar situation exist in the program for teaching pupils to spell "manufacture"? I doubt it. For example, do we follow this principle when we draw special attention to the fact that there are two u's in the word? Why not, instead, specify that letters in two separated positions follow one another in the same order as in the alphabet--m and n, t and u? Or emphasize that there are five vowels in the word? Or, even better, why not vary the responses by starting at the left and moving systematically to the right, following the order required in the act of writing the word correctly? Such a procedure seems more nearly to duplicate the step-by-step approximation found in the laboratory experiments.

One other question of a general nature about this program: Why should the pupil write "manufacture" in Frame 6, for which there are no instructions? Why should he not write make, fabricate, construct, design, stain, ship, or anything else appropriate? Also, may we expect that spelling the word correctly in Frame 6 will thereby guarantee that the pupil will spell it correctly in a spelling list or in context?

As a matter of fact, Frame 6 makes use of the idea of "reduction of cue," which is part of Skinner's psychology. According to another example, pupils learn to give verbal responses to a map and its various features. Then one by one these features and eventually the map itself are removed; and still the pupils are expected to give "appropriate" responses.

Teaching arithmetic. In one of his papers, Skinner comments as follows on a program for teaching a certain part of the arithmetic curriculum:

"No appeal is made to rote memorizing, even in the later acquisition of the tables. The student is expected to arrive at 9 x 7 = 63, not by memorizing as he would memorize a line of poetry, but by putting into practice such principles as that nine times a number is the same as ten times the number minus the number (both of these being "obvious" or already well learned), that the digits in a multiple of nine add to nine, that in composing successive multiples of nine one counts backwards (*nine*, *eigh*teen, twenty-*seven*, thirty-*six*, and so on), that nine times a single digit is a number beginning with one less than the digit (nine times *six* is *fifty* something), and possibly even that the product of two numbers separated by only one number is equal to the square of the separating number minus one (the square of eight already being familiar from a special series of frames concerned with squares)" (4, p. 165-166). Verbal behavior failed me, but not my machine.

Now the table of nines is a particularly happy choice for Skinner's purpose since in this table many relationships are, or can be made, evident. One wonders about the number of comparable relationships found for other tables, such as those with 7 as multiplier or multiplicand.

Again, as in the case of spelling, some of the analogies with the laboratory experiments escape me. I cannot see, for instance, that producing the response 63 to the expression 9 x 7 by using relationships already learned is similar to the step-by-step sequence employed in getting a pigeon to move toward a spot on the wall and then to strike it. In Skinner's experiment it was, of course, absolutely necessary that the bird be near, or approach, the disc, and move its head. By contrast, is there any single sequence of events that must be followed in order to get a pupil to say 63 in response to 9 x 7 = ? On the contrary, there are many ways in which this could be done, as is seen from the fact that Skinner himself lists several suitable rules that can be applied deductively. In view of these facts should we rely upon a single mechanical succession of processes in any phase of school learning? The step-by-step sequence would seem to mean that the responses to 9 x 7 would be 1, 2, 3, and so on up to 63.

The behavior of pecking the disc is an operant, that is, pecking responses are similar, but not identical, on different occasions. On the other hand, we expect the response 63 to be precisely that and nothing else in the presence of 9 x 7. Obviously there are no "similar" responses, for any number other than 63 is incorrect.

Teaching physics (4, p. 168). A few items from "part of a program in high school physics" will illustrate a curriculum at the high school level.

Frame 1. The important parts of a flashlight are the battery and the bulb. When we "turn on" a flashlight, we close a switch which connects the battery with the ________(bulb).

Frame 13. An object which emits light because it is hot is called "incandescent." A flashlight bulb is an incandescent source of ________________(light).

Frame 14. A neon tube emits light but remains cool. It is, therefore, not an incandescent ________________of light (source).

Frame 15. A candle flame is hot. It is a (n) ________________source of light (incandescent).

Now, are there procedures derivable from the principles of operant psychology, and just what kind of learning would result from such a curriculum?

To establish the operant "disc-pecking-in-the-presence-of-light" the experimenter first established disc-pecking behavior, and then changed the conditions under which the response was to be emitted. The operant did not change, but the conditions for its emission did. In what sense is this comparable to Frames 13, 14, and 15 of the physics curriculum. In these items the response changes, as first one word and then another is deleted in the process of developing the response "incandescent source of light," which, as I understand Skinner's discussion, is the key phrase to be established.

As for my second question, What kind of learning results?, I should say that it ended with 35 responses--35 terms. It is questionable that any kind of principle or generalization or understanding was developed, although one may have been since I have not had access to the whole curriculum. From another source I formed some idea of what Skinner means by "understanding;" and it sounds like what has been termed an "empty verbalism;" that is, it represents the ability to utter words without assurance that there is anything to the individual's verbal behavior other than mere word-uttering.

On this matter of "understanding," Skinner writes: "The growing understanding with which he reads and rereads a passage describing a period of history also may be identified with the growing probability that he will emit verbal responses similar to those which comprise the passage" (2, p. 409). Understanding is apparently a matter of frequency. To use another example: Just what does one understand about the characteristics of a good psychological test simply because one can recite a list of words describing their qualities? I may be able to say "validity" and "reliability" every time you ask me "What are the characteristics of psychological tests," and still I may really understand little about tests.

Skinner writes of higher mental processes, but only in terms of operant conditioning; for him there is no need to postulate any such processes. He is certain we can teach a child to think, because for him the solution of a problem is simply the inevitable end result of a sequence of approximations. There seems to be no place for a novel response in his psychology, and yet one suspects that Leibnitz and Newton must have made new responses when they created the calculus. Skinner seems not to provide for "creativity" in art, music, literature, or science. Hence, one may ask, Will the procedures recommended by Skinner develop or stifle novel responses, whether we call them creative or simple operant? The answer would appear to be "stifle," especially when we remember that there is one and only one correct answer to each item in the curriculum. Skinner speaks of "bits" of information. The inference--a very doubtful one in my opinion--is that if we have enough bits, we will, or can, put them together in a new and significant sequence.

Just one other point before we turn to our next topic. Skinner says that schools are criticized for their inefficiency in teaching the drill subjects, such as arithmetic; and proposes that this weakness can be eliminated by using machines (4, p. 151-2). By contrast he is little interested in the matter of understanding, for he writes, "It is true that the techniques which are emerging from the experimental study of learning are not designed to 'develop the mind' or to further some vague 'understanding' of mathematical relationships" (4, p. 156).

Machine Teaching and Certain Concepts Found in Learning Theories

Before concluding this section of the paper, I shall comment more completely on reinforcement and on a few other psychological issues commonly associated with theories of learning. These matters are, I think, inadequately accounted for by operant psychology.

Reinforcements. Before a response can be reinforced, the organism must emit an appropriate response. A food-deprived (or hungry) pigeon is likely to be on the move, so that there is a good chance that it will produce the desired response. A culturally-deprived (or ignorant) child seated before a teaching machine may also be restive; but why should he emit a culturally-dependent and appropriate response, such as 9 to the item: What is the sum of 4 and 5? Skinner, I think, has told us to reinforce the correct response, but he has not shown us HOW to get the child to emit that response. And the HOW is not unimportant in the daily work of the teacher.

Food, no doubt, is a reinforcer for a food-deprived bird, but is "knowledge of results" a reinforcer for all "culturally-deprived" children? I do not know, and I don't think any one else does. Our answer must come from experimentation rather than from logical analysis and analogy with animal behavior and the operation of primary reinforcements, such as food and water.

Classroom teaching involves verbal responses, and verbal responses require social reinforcement. In this statement I paraphrase Skinner. Yet, I see no provision for this type of reinforcement when children are placed before a Skinner box in a Skinner room.

It is claimed that a major value of teaching machines arises from the fact that they can provide immediate reinforcement for every response for every pupil. And this is impossible for the teacher to do since ideally he would have to provide thousands of reinforcements every day. Is this really necessary? or desirable? Actually, Skinner and his students report other schedules of reinforcement which are more effective than the reinforcement of every response. For instance, intermittent reinforcement, that is, reinforcing after a definite or variable number of correct responses or after a fixed or variable period of time, is more effective than is continuous reinforcement. Thus Skinner writes: ".... the resistance to extinction generated by intermittent reinforcement may be much greater than if the same number of reinforcements are given for consecutive responses" (3, p. 70).

Why, then, should a child's every response be reinforced? Possibly, it would be better to reinforce a limited number of responses. Just what does a pupil learn as far as future behavior is concerned when he is given a pat on the back every time he gives a correct response? Also, machine instruction reinforces every response by attempting to ensure that pupils will give only correct responses. Does a pupil, from such a procedure, come to expect that there is always one and only one correct answer to every question?

You will remember that the pigeon was reinforced time after time for raising its head to some minimum level, that is for repetition of a class of responses. By contrast, machine teaching does not provide for the successive recurrence of a given type of behavior. For instance, the pupil is expected to spell the complete word "manufacture" only once.

Transfer. Transfer is a matter of concern in education, and in some ways may be the most important outcome of formal education. Now note two points: First, Skinner maintains that the reinforcement of any response increases the probability of occurrence of all responses that contain similar elements--that is, transfer depends upon the reinforcement of complex rather than simple operants. But, second, he also claims that the most effective way to produce an operant is to deal with a simple response--that is, the most effective way to produce a desired operant is one which reduces the chance of transfer. This is what machine teaching is designed to do, and hence the likelihood that the learner will be able to use what he has acquired in a variety of new situations is drastically decreased. Machines may be useful for training. Are they also valuable for educating?

Forgetting. Skinner maintains that operant behavior is long lasting, some operants in pigeons lasting half the life of the bird even without further reinforcement after the responses had been established. The implication is that machine teaching, too, will lead to highly permanent responses. It will be interesting to see whether behavior acquired under the instruction of machines is proved under testing to be more permanent than that produced by traditional methods.

Individual differences. Some advocates of machine teaching maintain that mechanical equipment provides the answer to individual differences. This advantage is claimed because each pupil can proceed at his own rate with materials having units so small that every pupil can successfully complete the curriculum. Skinner believes that the difference between fast and slow learners is purely a matter of speed; some pupils require more time than do others, but all can complete the materials if they are given sufficient time. For this reason, some advocates of machine teaching suggest that it may be necessary to prepare as many as two or even three different programs to provide for individual differences. Most of us suspect, I think, that even two or three programs would not eliminate the problems occasioned by individual differences in the classroom.

One other comment about individual differences. Skinner believes that there are individual differences in the events which prove to be reinforcing. This may mean that "knowledge or results or operating machines" is not appropriate for all pupils. In this case the problem of individual difference in a very important area, namely reinforcement, still remains to haunt us.

Animals and pupils. One final point in this part of the paper: Skinner is quite aware that many teachers will complain that the "child is being treated like a mere animal." And I must confess that I am among them. Even in his Science and Human Behavior, Skinner's evidence is drawn primarily from animal experimentation. His recommendations regarding human behavior are essentially derived by inference and through analogy. We may even conclude that he would treat the child as if it were inert matter, for in introducing one chapter he writes that "Operant conditioning shapes behavior as a sculptor shapes a lump of clay." Are we to believe that a child contributes no more to the formation of his behavior than does a pigeon in a box or the clay in the hands of the sculptor?

I have been critical of much of what I see in operant psychology, and yet there are parts of Skinner's behaviorism with which I am in wholehearted agreement. I like his idea that knowledge of what the average child does is of little help in dealing with a specific child; that our behavior cannot be predicted from our physical characteristics; that scores on intelligence, achievement, and personality tests do not tell us how to go about altering the individual.

On the other hand, in my analysis, I find many discrepancies between psychology in the laboratory and its applied technology in the classroom, and I see certain educational weaknesses in operant behaviorism. Any theory could be beside the point. The test of the educational value of teaching machines must come eventually from experimentation. Questions concerning its merits must be settled by research. And this thought brings me to the concluding section of my paper.

As I said earlier, my concern is not so much about machines as about their early and extensive adoption for classroom purposes.

Just what evidence is there to justify the recommendations proposed by Skinner, and his statement--that cultural inertia is the only thing that stands in the way of improving education by means of mechanical equipment? What experimental justification is there for mechanizing the classroom as well as the kitchen?

Research Studies Dealing with Teaching Machines

According to a columnist in the August 8, 1960, issue of the Wall Street Journal, one billion dollars will be available to education from NDEA funds by 1962, and in his opinion some of this will be spent on teaching machines. He also points out that California in 1960-61 may receive three million dollars from these funds, to be matched with State funds, and he predicts that many school districts will ask for money to purchase teaching machines. As a matter of fact, it is not yet clear whether such requests can be granted, but in any case expenditures of funds on a large scale for such equipment are justified if we have evidence that machines do in fact produce more effective learning than can otherwise be obtained. Do they?

The authors of a 1960 bibliography on Teaching Machines (1) summarized many of the facts relating to publications which they considered to be experimental in nature. Of these, nine were conducted in the Armed Services, probably eleven in colleges, one in the junior high school, and four in the elementary grades. The numbers of subjects varied from 14 to 2000 with eleven studies having fewer than 100. Multiple-choice techniques were used by at least 15 investigators, and probably by more. The subject matter studied in schools and colleges included psychology, foreign languages, chemistry, arithmetic (two papers), and spelling (two papers).

The duration of the research studies varied from a semester to 13 minutes. At least ten of the 25 investigations were completed in less than one week. Some of the investigators reported no comparative data; others compared several ways of using machines, still others compared the results from no instruction with those from machine instruction, and possibly four used control groups taught according to traditional methods. Those who compared learning from machine teaching with the effects from no instruction report that the machines produced a change in test scores. This finding is hardly earth shaking since we usually find that teaching, even when done by teachers, produces superior results to no instruction at all.

In plain language, we have practically no research evidence that machines will improve learning, even in the so-called skill subjects, to say nothing of subjects making more severe psychological demands; and these latter make up the most difficult aspects of the curriculum from the standpoint of teaching. Skinner himself wrote that "no large-scale 'evaluation' of machine teaching has yet been attempted" (4, p. 173). It would seem to be better tactically and even practically to use most of the money for research; and by this I mean careful, systematic, scientific studies, not casual assessment and unevaluated programming.

Unless competent research precedes the classroom adoption of machines, we shall be acting on the basis of untested ideas, just as we have done in education too often in the past. At least in part, progressive education, in its extreme form, likely developed out of the criticism that schools were too rigid and harsh, producing unstable adults. Likewise, the early, overly optimistic expectations from tests, movies, and radio have not been fulfilled, and the best educational uses and values of television are still largely unknown.

Another example is found in the matter of readiness. The committee of seven recommended a late introduction of many topics in arithmetic. Now it is reported that a Harvard psychologist believes that we can teach any subject with some degree of intellectual honesty to any child at any age and any level of development. Are we now going to see a complete denial of a sensible concept of readiness?

And in connection with teaching machines, can we not be reasonable about how we accept and use this newest form of mechanical equipment?

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"Some Observations on the Theory of Teaching Machines"

--Father John O'Farrell, Educational Philosopher,
Loyola University of Los Angeles

I did not accept the invitation to appear on this program in order to push the panic button on teaching machines, nor to present the "mythical Vatican line" on learning theory. After all, in this second third of the 20th century, we are in the midst of a great technological breakthrough and the use of various kinds of machines has already profoundly influenced our social framework, our industry and agriculture, our social mobility, our functional economy, our communications system, our recreation, our thought processes, our values, our beliefs, and our concepts of education. For good or for evil? That is a question demanding long and penetrating philosophical and theological evaluation.

The program, if you put much stock in the wording of programs, bills me as an "educational philosopher" reacting to what an expositor and two psychologists have said about the forthcoming mechanization of learning. Would that I could fulfill my supposed commitment as well as the speakers who have preceded me and as well as the one who is to follow me. Perhaps, whatever observations I have to make will indicate that I need a great amount of autotutoring, or else I could use one of the many varieties of therapy listed in a mental health program.

But what is an "educational philosopher"? Through twenty years of verbal behavior and operant self-conditioning the Philosophy of Education Society so far has been unable to agree upon a definition of that term. The Harvard Educational Review devoted its Spring 1956 issue to a "Symposium on the Aims and Content of the Philosophy of Education." Twenty-five individuals contributed their views. The result: 22 different beliefs and 3 different opinions--ideology had a field day. Be that as it may, I am certainly not going to appear before you as a bundle of bonds in a biological organism interacting with my enviroment and oozing forth some creative intelligence on the postulational belt of continuity and temporalism.

I will not promise you anything, nor will I give you "Arpege." After all, people traveling through the desert of ideology or climbing imagined heights to push back self-announced frontiers are more in need of you know what.

A philosopher, not an ideologist, has for his object of inquiry the ultimate origin, nature, and causes of all being--especially of human beings. He is concerned with the Independent Being and all dependent beings, the essential and accidental aspect of the nature of being, the constituent causes of being, the ultimate efficient causes of the changes in beings, and the final cause of being. He proceeds from and beyond facts, from their proximate, material, and measurable components to the principles governing them. He organizes these principles into a dynamic, open system (open at one end--else there would be a draft or a rush of chilling verbalisms in an empty tunnel), and then returns these interrelated principles to the changing existential order where they act as guides in the ever-developing realm of knowledge about the psychological, the cosmological, the ethical, and the naturally theological--the ultimates in the microcosm and macrocosm of the universe. He is concerned with the problem of knowledge to which the problem of learning and the methods of learning are closely related. Practically (and philosophy can be extremely practical,) the philosopher is interested in the unity, truth, goodness, beauty, and value of the part in relation to the whole; in a word, in wisdom--the relation of all things to their proximate and ultimate objectives. He is also concerned with human making--especially the fine arts, and with human conduct--the right way of living according to human nature in all its parts and relationships. The philosopher has no quarrel with the scientist, or the theologian, or the intutionist or the artist as such. The philosopher does not propose than man can live by philosophy alone, but he suggests that every human being (actually and incohatively a philosopher by reason of his nature) seek out, according to his capacity and opportunity, the truths and best opinions available thus far from the four fonts of knowledge--the scientific, the artistic, the philosophical, and the theological--personalize them and integrate them into a complexus by which he can live orderly, freely, happily, dynamically, creatively, and meaningfully. Finally, and to the point at issue, the philosopher suggests, not reaction to teaching machines but positive action by scientist, philosophers, and experienced teachers; cooperative action to analyze, test and, evaluate the theory or theories of human perception, learning, and knowledge that should intelligently precede the limited use of various teaching machines.

A philosopher, not an ideologist, would want to line up all the facts observable and the data uncovered and tested by scientific procedure relative to the varieties of auto-instruction; categorize them; examine the theories or hypotheses used to explain them; discover the assumptions underlying them; spell out the inexorable logical implications in them; be sure that they were instrumental means and not objectives, and that, according to the origin, nature, and purpose of the human learner, they would perfect his nature and help him toward his objectives. For example, if a certain position or a theory were seriously inconsistent, a philosopher would proceed no further or would wait till such a consistency was elaborated. Supposing consistency, the philosopher would then examine the assumptions behind the theory. If the assumptions were untenable, the philosopher again would not consider it worthwhile to proceed further. A philosopher does not dictate to a scientist nor to a theologian what he shall investigate or the methods he may choose to employ. Rather, the philosopher is interested in the knowledge of results, the causes employed to effect change, and the ends to which they are employed.

As you know from the recent works of Thorpe and Schmuller, Hillgard and Gordon Allport, there are over a half dozen different theories of perception and learning. There is even the theory of no theory at all. One of these theories is that of B. F. Skinner's "operant conditioning" regarding the behavior of organisms and verbal behavior. His programming technique is based upon a behavioristic theory of learning and has certain assumptions underlying it.

In the remainder of the few minutes allotted to my "reactions," I intend to gesture at the inconsistency of Skinner's remarkable experimentations on animals when transferred to human learning and verbal behavior and to point briefly at the assumptions underlying his theory of conditioning as applied to humans.

Accepting the fact that there is unfortunately a great deal of opposition by scientist, especially experimental educational psychologists, to philosophical critiques of the application of their findings outside of the restricted field of science, I suggest that you examine at your leisure Noam Chomsky's critique of Skinner's book, entitled: Verbal Behavior (Appleton, Century, Crofts, 1957, 478 pp.) which appears in the distinguished periodical, Language, Vol. 35, 1959, pp. 26-58. Dr. Chomsky, not a professional philosopher, but a member of the faculty of the Massachusetts Institute of Technology and the Institute for

Advanced Study, discusses Skinner's explanation of Verbal Behavior against the background of Skinner's writings and their evaluation by his peers--fellow scientists. Chomsky details the enormous complexities resident in the structure and meaning of language and points out that Skinner does not even begin to face these complexities, much less to analyze them or fit them into his narrowly defined, stimulus-response mechanism. Chomsky does not offer any solution to the problems he has raised, nor does he even gesture toward philosophy for part of the solution; but he does point out the poverty and barrenness and inconsistencies of Skinner's operant conditioning as an explanation of how human learning and verbal behavior take place. Chomsky readily admits to Skinner's prolonged, valuable, and successful study of certain types of animal behavior; but he seriously challenges Skinner's cosmic and optimistic leap from animal to human behavior.

To quote from a few significant passages of Chomsky's critique:

> "Skinner's thesis is that external factors consisting of present stimulation and the history of reinforcement (in particular the frequency, arrangement, and withholding of reinforced stimuli) are of overwhelming importance, and that the general principles revealed in laboratory studies of these phenomena provide the basis for understanding the complexities of verbal behavior. He confidently and repeatedly voices his claim to have demonstrated that the contribution of the speaker is quite trivial and elementary, and that precise predictions of verbal behavior involves only specification of the few external factors that he has isolated experimentally with lower organisms." (OP. Cit., pp. 27-28)

Chomsky continues:

> "Careful study of this book (and of the research upon which it draws) reveals, however, that these astonishing claims are far from justified. It indicates, furthermore, that the insights that have been achieved in the laboratories of the reinforcement theorist, though quite genuine, can be applied to complex human behavior only in the most gross and superficial way, and that speculative attempts to discuss linguistic behavior in these terms alone omit from consideration factors of fundamental importance that are, no doubt, amenable to scientific study, although their specific character cannot at present be precisely formulated. Since Skinner's work is the most extensive attempt to accommodate human behavior involving higher mental faculties within a strict behavioristic schema of the type that has attracted many linguists and philosophers, as well as psychologists, a detailed documentation is of independent interest. The magnitude of the failure of this attempt to account for verbal behavior serves as a kind of indication of how little is really known about this remarkably complex phenomenon." (OP. Cit., p. 28)

After discussing Skinner's definitions of "stimulus," "response," and "reinforcement," Chomsky quotes from the Modern Learning Theory of Verplanck who demonstrates the untestability of many of Skinner's so-called "laws of behavior," and the limited scope of many others and the arbitrary and obscure character of Skinner's notion of "lawful relations;" and at the same time, noting the importance of the experimental data Skinner has accumulated.

Proceeding further in his analysis of Skinner's Verbal Behavior, Chomsky points out that the word "stimulus" has lost all objectivity in this usage.

> "Stimuli are no longer part of the outside physical world; they are driven back into the organism. We identify the stimulus when we hear the response. It is clear from such examples, which abound, that the talk of stimulus control simply disguises a complete retreat to mentalistic psychology. We cannot predict verbal behavior in terms of stimuli in the speaker's environment, since we do not know what the current stimuli are until he responds. Furthermore, since we cannot control the property of a physical object to which an individual will respond, except in highly artificial cases, Skinner's claim that his system as opposed to the traditional one permits the practical control of verbal behavior is quite false." (OP. Cit., p. 32)

Having discussed Skinner's explanation of "response" and "reinforcement" in relation to verbal behavior, Chomsky is of the opinion that:

> "Skinner's claim that all verbal behavior is acquired and maintained in 'strength' is quite empty, because his notion of 'reinforcement' has no clear content. Functioning only as a cover term for any factor, detected or not, related to acquisition or maintenance of verbal behavior, Skinner's use of the term 'conditioning' suffers from a similar difficulty. Pavlovian and operant conditioning are processes about which psychologists have developed real understanding. Instruction of human beings is not. The claim that instruction and imparting of information are simply matters of conditioning is pointless. The claim is true, if we extend the term 'conditioning' to cover these processes, but we know no more about them after having revised this term in such a way as to deprive it of its relatively clear and objective character. It is, as far as we know, quite false, if we use 'conditioning' in its literal sense." (OP. Cit., p. 38)

Over a span of sixteen pages Chomsky discusses the remaining major notions essential to Skinner's descriptive system of Verbal Behavior. They are: drive reduction, environmental feedback, mands, echoics, and autoclitics. There is hardly time to define these terms here.

Regarding these key terms as a group, Chomsky concludes in this manner:

> "My purpose in discussing the (above) concepts one by one was to show that in each case, if we take his terms in their literal meaning, the description covers almost no aspect of Verbal Behavior, and if we take them metaphorically, the description offers no improvement over various traditional formulations. The terms borrowed from Experimental Psychology simply lose their objective meaning with this ex-

> tension, and take over the full vagueness of ordinary language. Since Skinner limits himself to such a small set of terms for paraphrase, many important distinctions are obscured. I think that this analysis supports the view expressed above, that elimination of the independent contribution of the speaker and learner (a result which Skinner considers of great importance, cf..VB 311-12) can be achieved only at the cost of eliminating all significance from the descriptive system, which then operates at a level so gross and crude that no answers are suggested to the most elementary questions. (Footnote: e.g., what are in fact the actual units of verbal behavior? Under what conditions will a physical event capture the attention (be a stimulus) or be a reinforcer? How do we decide what stimuli are in 'control' in a specific case? When are stimuli 'similar' and so on?) The questions to which Skinner has addressed his speculations are hopelessly premature. It is futile to inquire into the causation of verbal behavior until much more is known about the specific character of this behavior; and there is little point in speculating about the process of acquisition without much better understanding of what is acquired."
> (OP. Cit. pp. 54-55)

So much for the testimony of a scientist on the Skinnerian "operant conditioning" being applied to verbal behavior and its mechanization in programming.

Personally, I have expressed my allergy to the term and the current connotation of the word "reaction." I have disclaimed the title of or position of "educational philosopher"--in quotes. I have attempted to describe a philosopher, not an ideologist. I have tried to indicate in outline form the role and function and procedures of a philosopher regarding the philosophical aspect of any given problem. As a human being and a teacher, with a variety of incohative competencies--one of them being some acquaintance with philosophy, I made two promises: (1) to see if there were any notable-inconsistencies regarding the current front-running advocates of teaching machines; and (2) if there were not, then to call attention to the assumptions underlying the position of such advocates.

Regarding the first point about possible serious inconsistencies, I have remained on the scientific level with Noam Chomsky, who pointed out some very serious inconsistencies in Skinner's transfer of laboratory techniques in conditioning animal organisms to the classroom to condition the verbal behavior of radically different human beings. [illegible]. Tyler has pointed out other inconsistencies particularly in the areas of transfer, forgetting any individual differences.

Since there seems to be a strong case for grave inconsistencies in Skinner's transfer of operant conditioning from the laboratory to the classroom and in his programming techniques based upon such operant conditioning, it is untimely and unnecessary to deal with the second promise; namely, spelling out and evaluating the assumptions underlying Skinner's theory.

Incidentally, in considering 121 articles on testing machines and programming, I found that only six of them obliquely considered any theory of learning or theory of knowledge behind such auto-instruction techniques. None of them started with nor employed any criteria on the nature of knowledge, the nature of knowing, nor the objectives of education. All of them seemed in a hurry to devise means of speeding up the acquisition of facts, information, and processes. If man is not a God-created human being capable of immaterial cognition and volition, but just a biological organism interacting with his material environment; then it logically follows that you should be in a hurry to make man over into the image of an animal by conditioning him. If you ideologically accept naturalism and exclusive scientism, then you should logically accept the naturalization and mechanization of man.

To Conclude: I am grateful to Dr. Eboch for his enlightening description of the mechanical aspects of current and projected programming techniques. I agree with Dr. Tyler's evaluation as far as it goes, though I seriously question his statement that "it is only more or less true that teaching machines and their curricula are based upon a definite theory of human learning." I hope Dr. Keislar obtains large grants of money for more research, but for that type of limited, human auto-tutoring that will more approximate the mysterious natural endowment of the human learner than the techniques of Skinner's animal laboratory. And I hope that I have not disturbed your mental health as you waited patiently to hear Dr. E. M. Bower, Deputy Director of the Department of Mental Hygiene.

"Comments on the Theory of Teaching Machines"

--Eli M. Bower, Deputy Director, Liaison and Prevention Services,
California State Department of Mental Hygiene

I feel somewhat like the little boy in Richard Strauss' Der Rosenkavelier who comes on just as the curtain is coming down, grabs a dropped handkerchief, and runs off the stage. I feel the curtain coming down very rapidly behind me. I have tried to act as a discussant to these presentations of the problem of education and machines. I am sure you will remember the illustration of the blackboard and the screen demonstrating that technology may affect process very little. I am impressed with Dr. Keislar's warmth and enthusiasm about his topic. It does me good to see us reacting to these problems and getting emotional about them. There is much too much apathy and cold intellectual logic about educational issues. Every once in awhile I feel that we need to feel a little more--use the heart as well as the mind. I think Dr. Keislar is quite right in insisting that what we are talking about is learning, and what we are trying to determine is how children learn best. A couple of weeks ago, I had the privilege of seeing a play called "Miracle Worker," the story of Helen Keller and Ann Sullivan. Here is an attempt by one person to teach another who is without sight or hearing. Now, the basic problem that Miss Sullivan had was, in conveying through some sort of communication, that the messages conveyed to Miss Keller's hands were in fact representations of reality. I was delighted by the fact that a sophisticated Broadway audience could be enthralled by an educational problem in addition to the peppery Tennessee Williams or more entertaining Lerner and Lowe musicals. The audience was just enthralled by the problem and the solution, and wept copious tears at the first educational breakthrough. The essential core of the play is concerned with the question "How does one teach a child of this kind?" Now, I submit that the education of Helen Keller is no different in many ways than the educational problems of other children, although I would not minimize the difficulties of sensory deprivation. However, as Miss Sullivan symbolizes objects and things into the little girl's hands, it is not at all obvious what these things mean to the recipient. To the child it is a game. When, for example, Ann Sullivan puts the child's hand in water and spells "water," the little girl spells "water" back to her. However, there is connection made in the child's mind what this means in terms of meaning. At about the time Miss Sullivan is ready to give up, there is a highly emotionalized scene involving water and the connection is made.

Education, to me, is an attempt on the part of one person to help another to put meaning into symbols. Now, this in essence, as I see it, is the nature of learning. It is not a conditioning process, nor can it take place out of context of the organizing and perceptual characteristics of the human being. A study by Humphreys illustrates this point. In the experiment, a subject sees two lights on a board, one on the left side and one on the right. His job, as posed by the experimenter, is to predict, after the light comes on, whether or not the right light will follow. Humphreys used two groups of subjects: for one group, the right invaribly followed the left; for the other, the right light followed the left only half the time. Subjects in the first group quickly learned to predict correctly. Subjects in the second group, after a longer period of time, learned to predict that the right light only followed the left light half of the time. Thus far, then, one can find little to contradict a simple frequency, camera explanation of learning.

A second phase of the experiment followed in which subjects who had learned the "right follows left" and "right follows left half the time" were subjected to a new pattern. Now, the left light was flashed but the right never came on. Soon, a series of left lights with no following right light led to a gradual extinction of predictions that the right light would go on. Which group "got the idea" first? Humphreys found that the group which had been subjected to a regular pattern of right follows left took a significantly shorter period of time to predict the changed pattern than the subjects in other group.

If one were advocating a simple frequency or camera type of learning for this experiment and these subjects, one would suspect that those individuals who had the most repetitive stimulus-response conditioning would be more persistent in expecting the same pattern to continue. On the basis of stimulus-response theory, the sum of the experiences in the "right follows left" individuals seems far stronger than in the other group. Yet, we find these individuals shifting focus more readily and speedily.

One way of explaining this would be to consider not only the frequency, objective aspects of the experiment, but the individuals involved. One who was perceiving "uniformity." This concept of uniformity might be conceived as a transaction of object and subject. A hypothesis was established in order to predict the outcome. What was real to the subjects of this group after a few trials was the uniformity of the pattern. Those subjects who had experienced the "right follows left irregularly" abstracted from their experience a hypothesis of some irregularity so that a change in pattern did not enlist as rapid a change. It is evident in this experiment that the individual participates in the experience by organizing the experience and selecting perceptual cues with which to find familarity and self meaning.

Now, a number of things that have come up with regard to the teaching machines and learning which I think need to be considered. One is the problem and the necessity for an immediate response and an immediate reinforcement to that response as a part of the learning process. One of the principles that was first proposed by Freud on the basis of his early theories of psychosexual development of the child was the idea that young children responded on the basis of a pleasure principle, and that as one grew up, there was a tendency to be able to put off getting an immediate feedback. This principle of behavior called the Reality Principle permits one to say "I will go to college now because four years from now I think it will be good for me." Now, that is the kind of reality testing which we say mature people can and should do. We can look at a problem and put off getting an answer for some time. Children cannot do this well. It is entirely possible that the tendency to think or pattern learning entirely on the need for immediate responses to a problem may curtail this kind of learning. Perhaps there is a need for experiences which encourage exploration and judgment. The American public is very much impressed with direct informational responses, and a lot of people have gotten into difficulty for having given a few direct responses to please us all. In any case, this is not to say that direct, correct responses are undesirable. In terms of my learning theory, at least, I believe that if there are teaching machines that do promote understanding, that do develop the conceptional aspects of the human mind; then, certainly these machines should be part of the learning process. However, many of the people who spoke on the panel before me mentioned teaching machines which, apparently, were of one type. I think we need to look forward to an expansion of such learning experiences just as we have looked forward to the expansion of the use of other audio-visual equipment. I thought that I would finish with the story of the man who was going to a psychiatrist, and who daily took his prescribed position on the couch and was encouraged by the psychiatrist to talk. One day, after some ten sessions, the patient looked behind him and found there was nobody there. He kept on talking since he was paying for the hour, anyway, until the psychiatrist returned. The patient somewhat reluctantly pointed out that he had been talking to himself most of the hour. "Well, that's O.K.," the psychiatrist replied, "you just keep on talking. I have a tape recorder here behind you that is taking it all down." On his next visit, the patient started talking again, looked behind him, and found that the psychiatrist was again absent. The third time this happened, the man walked out and went down to the coffee shop where he saw his psychiatrist enjoying a cup of coffee. He sat down beside him and ordered another cup of coffee. The psychiatrist said, somewhat puzzled, "Hey, aren't you supposed to be up there talking?" "Oh, that's quite all right," the patient assured him, "I recorded what I had to tell you today before I came, and my tape recorder is upstairs talking to your tape reocrder."

REPORT

# of the

THIRD GENERAL SESSION

"Legal Aspects on the Selection and Screening of Credential Candidates"

--H. Orville Nordberg, Chairman, Division of Teacher Education,
Sacramento State College; Leader

Nordberg: As you certainly all know, this Council is committed to the improvement of teacher preparation. You also know that in keeping with this commitment, colleges and universities throughout California have developed increasingly effective screening programs in order to elevate professional standards and turn out better teachers for the schools of California. I think all of you are certainly acquainted with Sections 933 and 934 of the Administrative Code, Title 5, which charge us as to what we must do and shall do. Section 933 of Title 5 specifically requires that we conduct continuous screening of teacher candidates; it places responsibility for removing deficiencies on students, and makes final the decision of the administrative officials of the college or their representatives. Section 934, of course, lists criteria by which one can evaluate a candidate for a teaching credential. These criteria include physical fitness, speech and language usage, character, professional aptitude, scholarship, and so on. Now when credential candidates are rejected by a screening program, we find that they are not always pleased by the decision and sometimes their attitude makes our position difficult. On occasion, they protest and threaten to sue. But beyond ethical considerations in teacher selection, there are some legal implications involving individuals and involving the institutions. Thus in recent years in California, as new people and new institutions have entered in the program of teacher selection, and as older hands in older institutions have looked more carefully at candidates, some apprehensions and fears have given rise regarding liability and related problems. Some of us have asked who are we to judge? By what right do we judge? Others have asked regarding the protection we have in making judgments about credential candidates. What evidence do we need to warrant our decisions in event of protest? What constitutes admissible evidence? And what recourse does a candidate have if he is turned down for a teaching credential?

In the spring of 1958, an exploratory committee of this Council recommended that the present committee be established, the Board of Directors fortunately concurred, and so since that time we have been meeting regularly to share problems and experiences and find answers to some nine questions which constituted our central directive. We can report here today that we have found our answers and that we have been able to help and even lend courage sometimes to visitors to our Committee. We have discovered that some college catalogs already have been revised in the light of our findings. We have raised further questions, beyond the original nine; for some of these later questions, there are at present no precise answers. We will talk about this problem a little later on.

Screening officers and screening committees ordinarily operate professionally, as they should, and sometimes they may operate whimsically, as they should not; but in any event we have to think about protecting ourselves, protecting the credential candidate, protecting the institution, and, first of all, protecting the child in school. Keeping these realities in mind, we in the Committee now would like to share with you some of our findings. I shall start off by reading the questions and then members of the Committee will respond. One of the very first questions which we were given was this: To what extent is the institution itself involved legally when the names of all candidates denied admission to a teacher education program are submitted to the Commission of Credentials?

I think you see the particular problem here, and realize some of the apprehension which we shared at the outset. Now Stephen Ballou, Associate Professor of Education, Fresno State College, who has done yeoman work on our Committee, has an answer to this question and we will turn it over to him to see if he can help us out.

Ballou: I hope this is the right answer; at least it is the answer by which we have been operating and we hav not gotten into any trouble over it yet. As a result of a conference with legal counsel in the State Department of Education, we can report that there is no liability likely to accrue if the recording of evidence is limited to facts. That is, "what, where, who, when, how," that sort of thing. Screening committees are delegated the responsibility to interpret such factors. State employees in non-proprietory endeavors are not subject to liability for damages, if their interpretations are performed in the line of duty. State college personnel are currently part of the State Department of Education; they cannot be sued separately, nor are they subject to civil liabilities.

Nordberg: A similar question which we had given us concerned the legal position of the institution when it denies candidacy for a credential when the institutional screening requirements exceed the State minimum requirements. Now, our institutional requirements all over the State generally exceed State minimum requirements and so questions have been raised. What if the candidate protests? What could we possibly do if he does protest and he says, "I have fulfilled the State minimum and you will recommend me for a credential." Is there some particular problem or liability here? G. W. Ford, Professor of Education, San Jose State College, has the answer.

Ford: I am basing my answer chiefly again on responses that Mr. Bobby, Assistant Counsel, State Department of Education, made to questions developed for him. This question of going beyond the minimum requirement relates chiefly to the grade point average and to the score that might be made on a standardized test indicating academic aptitude. The Education Code does not say that an institution might not go beyond the minimum requirements. In fact, there are sections of the Code that seem to encourage teacher education institutions to go beyond the minimum requirements, particularly in the case of the credential programs that go beyond the fourth year of the bachelor's degree. As Dr. Nordberg said, most of the institutions in the State, if not all of them, have been setting up standards that go beyond the minimum. Therefore, we assume that it is legal for the institutions, the state colleges, the university, and the private institutions to go beyond the minimum requirements set in the Code.

Nordberg: Now we have a couple of other questions here that are related. I shall try to answer these myself since there is no real answer to one of them. One of the questions we had was this: Is the present physical fitness form described in the Administrative Code, Title 5, and employed by the medical staff, sufficiently exact or descriptive to establish physical fitness of the candidate for teaching? Many of us have worried about this problem for a long time. You have seen the forms; you often see them when they are completed. They all say normal, normal, normal, normal--and that is fine--but many of us have had misgivings about this condition because we felt that a person may indeed be warm and walking about but not really competent to be a teacher. Yet the physician says that he is normal, and certainly he is normal. There may be nothing wrong with him organically, but the form itself has not been adapted primarily to teaching, and so questions have been raised. I thought that I should report to you this morning that on November 16, and 17, 1960, the California Medical Association, the State Department of Education, and the California Teachers Association are sponsoring a joint conference in San Francisco to consider this particular problem among others.

They are trying, and have been trying for a long time, to revise the form, to adapt it, and to establish something in the way of minimum requirements or criteria which would indicate that this person is not only normal, but that he is a good teacher as far as physical requirements are involved. The form which is used also includes some commentary upon matters which are other than entirely physical, and this, of course, is where screening officers get into mischief. The instant you start to assess emotional health, as well as mere physical health, there are problems; we make judgments, we cast our professional opinion upon this person, and then questions are raised as to our competency, our legal position, and all the rest. And as many of you know, again, some of the candidates are not always happy with our decisions. So I should report that work is going ahead and there are still some questions which must be answered. But the similar question related to the form itself, and to the general problem is this: What is the position of the institution when there is conflicting medical opinion regarding the physical fitness of the candidate? Now there is a real one, and some of you may have faced this dilemma where two physicians or two psychiatrists present conflicting opinion. What is the poor educator going to do when he has to decide whether or not this person should be turned over to the children of California, and vice versa? The answer here is pretty plain. The answer is, "we prevail." If there is conflicting opinion, we have to decide and we do decide to the best of our judgment and in the light of the very best available data. And that is the answer, just as clear as that We prevail. You see, the problem is given rise when the college or university medical officer makes a decision which is negative and the candidate presents the opinion of his family physician who says, "Well, I have known this little girl since she was born and she is the finest little girl there ever was. She loves her mother, she is a nice girl, and I think she is all right." So we have a conflict, and the candidate protests, and the answer again is we prevail.

Ford: You mean the teacher selection committee or council or whatever it is?

Nordberg: Yes--we. Were there any more questions or stories? Everybody on this panel could tell you stories about this particular problem, and I know some of the audience could, too; where there have been serious conflicts, conflicting testimony, sometimes heartaches.

Ballou: One way to strengthen the position of the screening committee, I believe, when there is a psychiatric opinion which suggests that this person is not fit for teaching, is to have a panel of two or three psychiatrists interview the individual, so that you help to remove the possibilities of personal bias. This procedure seems to have worked quite well.

Nordberg: Another question about medical practitioners may be new to some of you, but to others it is an old, old problem. The question is this: How may teacher education institutions deal with medical practitioners who recommend that individuals be permitted to teach because the psychological difficulties of the candidate may be improved or overcome by such opportunity? Homer Hurst, Head, Department of Education, Whittier College, has the answer for you here.

Hurst: At Whittier College, we have a couple of things going for us. In the first place we are a relatively small college and we know our people pretty well and counsel with them rather early. In the second place, the Vice-president of the United States is on our side. I have not heard this debated on television yet, but I understand that he is mixed up in politics. I read that in the California Teachers Association Journal. Here again the college prevails and we do have cases where a psychiatrist or a physician will write a letter to us saying to let this person teach, it will help him a great deal.

Nordberg: Another question given us was this: Should institutions notify the State Department of Education about potential credential candidates who do not file for candidacy but who are considered by the institution to be unfit for the profession? (It was assumed by the Committee that such notification would not necessarily result in final elimination or denial.) This is an old problem because sometimes we identify students, lower division students perhaps, who are, we will say, eccentric; and yet they indicate publicly that they intend to become teachers. The question is, should you do something about this matter early? If so, are you damaging this person's reputation or whatever else by reporting that he intends to be a teacher and we think he should not? You can see all kinds of hazards here for liability for suit. If we operate on the basis of whimsey, we are asking for trouble certainly, and yet all of us know that on our campuses strange people sometimes are admitted. Some of them have beards and sandals, some of them have strange attitudes and language patterns, or various things which distinguish them from the crowd. Certainly every institution has its own particular policy about this matter. We have inquired, however, and we have learned that a statement of fact is not subject to suit provided, of course, that there is no malice intended. If you simply make a statement of fact, there is no problem and there should be no fear on your part that you are doing something wrong. The question arises as to the basis of your evidence, and again, as you were told earlier, you certainly ought to have places, names, dates and actual events recorded rather than casual opinion. So if you want to notify the State Department about a candidate who says he is going to be a teacher but he has not yet been officially rejected, you can do this, but you certainly ought to have the facts well at hand. A statement of fact is not subject to suit as such. I think that part is fairly clear; many of us have worried about this question for a long time and there it is. I think that you know also that in California we have a great many tramp students, or tramp scholars, who for one reason or another travel around from one institution to the next. This is creating a problem with screening committees because a student will go one place and have a very unsatisfactory record and then he will pack up and go some place else and start afresh and his record does not always follow around with him. All he has is a transcript; since he made passing grades he is a good citizen. We have wondered about the follow-up on this. And now Alvin Robinson, Assistant Professor of Education, University of California, Santa Barbara, has an answer for you to the direct question: Does the institution risk liability on grounds of prejudice if a notification of unfavorable action by the Institutional Screening Committee accompanies a transcript of academic record?

Robinson: This is a further refinement of the same basic problem. How can we spot, identify, and control the movement or the later application of these people who are felt undesirable at any particular institution? One move is the matter of notifying the State Department even if they are not basically a part of the credential program. Another approach is the one mentioned here, the fact that the institution perhaps can put some indication on the transcript or the official record of the institution. Now an institution is responsible to act as an agent of the State, as a representative. You might say that you have the responsibility, not only a privilege but an obligation, to act as the delegate of the State. As such you are not liable for reporting recorded facts. The point again is the validity of the statement you put on the transcript. Factual information which can be reported basically comes from two sources. It may be a recorded action, the who, the what, the when, the where, the who-observed-this type of evidence which can be either in writing, or it can be, of course, a sworn testimony. The other possible source of factual information can come from competent testimony. Now each of the people who function as screening officers and make these decisions on the various campuses are considered to be competent, professional people; as such they are capable of having their personal testimony accepted as valid. In a sense, this is a little awkward; on the other hand, this is part of their job. They are paid, you might say, to make these professional decisions. It is their obligation to interpret the actual material which is provided for them and to decide whether a person may serve as a teacher without affecting the safety or welfare of the children. This, of course, is the ultimate criterion for the testimony. And may I remind you that the trouble will arise when the opinion given by the competent authority is outside of the field of competence. Now we understand two institutions, I believe San Francisco State College and Sacramento State College, are already putting a stamp on the transcript in relation to acceptance or rejection from the credential program. We feel this may be helpful; this will stop the student from transferring to another institution before he can become involved.

Hurst: At Whittier we indicate only the approval of the general secondary credential candidates. I have asked that we also show rejections but so far I have not gotten anywhere. We do not indicate any acceptance or rejection on special secondary credential or on general elementary credential candidates.

Nordberg: I do not know of anyone here who has had dealings with criminals in the student body. But on occasion it is possible that you will, or have, and so we have a question like this: Will an institution become legally involved should it record or transmit information regarding acquittal action on misdemeanor or felony charges against credential candidates through the State Department of Education? That sounds as thought it is translated from the German, but I think you understand it. You see this problem here clearly. It is quite obvious. On occasion, students come to us and say "Well, I was charged with thus and so when I was a youth, but I was acquitted. And, therefore, I have no record." Actually, of course, if one goes to a trial after having been picked up by the police, fingerprinted, and all the rest, that is a matter of record and you cannot change it. Homer Hurst has some information regarding acquittal action.

Hurst: Since arrests are a matter of record and since people are fingerprinted when they apply for a credential, we are not involved in any risk when we aid a student in transmitting information which he must transmit. We always tell him that it will eventually come to light anyway, in order to be placed on the application for a credential. You have to tell whether or not you have been arrested, whether or not there is a court action, whether or not there is a record. Of course, if there was any action, there would ordinarily be a record. The screening officer is in no danger of liability so long as he tells the facts.

Nordberg: Another question now: What is the position of the institution when there is a conflict of opinion between the institution and a governmental agency such as a rehabilitation agency concerning fitness of a candidate for teaching? Some of you have had experience with this sort of thing where the other agency will be doing its duty in trying to make the person self-supporting and they say well, thus and so. And we say, well, we don't think so. The answer again is: We prevail. The credentials committee, the college or university prevails, because presumably it knows more about the candidate, more about his fitness for teaching, than does a governmental agency of another kind. We prevail. We like this slogan very much. We raised a couple of additional questions here which came out in our discussions. Now I would like to ask Dr. Ballou if he would pick up one of these--a problem which runs through several questions and concerns privileged communication.

Ballou: This, of course, applies primarily to information obtained by a physician and the Student Health Center or by a counselor on a campus. This question has many ramifications and if I tried to explain them all, I would only confuse you worse than I am confused myself. But there is a basic principle operating which seems to be a safe one to follow. That is, any medical information which is gathered for screening purposes is State property; therefore, it is not privileged, as far as the Commission of Credentials is concerned, so there is no risk or liability or reason for not releasing this information when it is appropriate.

Nordberg: Then we have the other question about the recourse open to the rejectee in appealing his particular case. Dr. Ford will help us here.

Ford: This has been brought out already on several occasions this morning. The college or university prevails. The student who wishes to appeal his case might do this within the structure of the college. That is, there may be several different sources to which he might go for an appeal and this would be up to the individual institution. But the college authorities, according to Section 933 of the Administrative Code, have the right to decide whether or not the candidate shall have the approval of the college or university for a credential, and apparently, it is our understanding anyway, that the student then cannot appeal to the Commission of Credentials or the State Board of Education. However, if a student then makes application through a district for a provisional credential some time later on, this would amount to an appeal. The Commission of Credentials apparently would have the record of the college or the university, indicating that this student had been denied candidacy, and then the Commission of Credentials would need to review the case, going back to the college or university for information. The Commission of Credentials, I think, would have its decision then reviewed by the State Board of Education, but I think the chief answer is that the voice of the authorities of the college or the university is final.

Nordberg: I would like to read now a summary statement provided for us by Charles H. Bobby, a Legal Counselor of the State Department, and I think it is comforting. "The responsibility and authority for screening are especially delegated to the institutions providing teacher education. The burden of proof rests with the candidate. The first obligation is for the safety and welfare of the school children. As a matter of professional responsibility, all decisions should be carefully documented with full detailing of the facts, separated from opinions. And finally, various matters need further clarification and are being submitted to the legal advisers of the State Board of Education."

Now our purpose this morning really has been to apprise you of some of the particular problems which face screening committees when candidates are rejected, and to persuade the Council through its Board of Directors to take certain actions. I would like to read some suggested actions to you and Dr. Ballou will read some also.

1. We should like to urge the prompt publication and distribution by the State Department of Education of a summary of law and legal opinion regarding legal implications arising through rejection of credential candidates.

2. We should like to see summarized and charted the screening requirements and procedures for all institutions, public and private, preparing teachers in California on the grounds that discrepancies among institutions and between institutions and State minimum requirements further legal complexities and merit rigorous inquiry.

3. We hope it will be possible to expedite recognition and give elevated priority to legal problems related to screening credential candidates on the part of the State Department of Education. We recognize this may require additional staff and budget. We are urging that these be provided.

Ballou: The next three recommendations are taken from the report that we made at the Santa Barbara Conference and we include them again in what we anticipate as our final report. Number four in this sequence will be the wish that definite and prompt communication be established among teacher education institutions regarding transferring credential candidates and especially candidates denied admission or continuation in teacher education programs. Responsibility for requesting information should rest with the receiving school, that is, the school to which the candidate transfers. Number five: That the Board of Directors of the California Council on Teacher Education recommend to all teacher education institutions in California that a notation be placed on transcripts regarding official denial or admission to, or continuation in teacher education programs. Such policy would not prejudice subsequent consideration of the candidate. Number six: All institutions be urged to consider all applications for credential candidacy as early as possible in order to eliminate obviously unfit persons early in the program.

Nordberg: Our last recommendation is the one we like most insofar as our original charge has been met to the best of our ability and the extent possible. It is recommended that the Board of Directors dissolve this Committee. I would like to express appreciation for the excellent work which the members of this Committee have done. I serve on all kinds of committees, as you do, and I have never worked with a better committee or a more dedicated, alert, and informed committee than the people here on this panel and those who have participated with our Committee in the last two years. Now it is to be hoped that the recommendations that we made today may provide to institutions that have not participated on our Committee an increased sense of security and sense of mutual support in collectively performing our professional responsibilities to prepare for effective teachers. If we have accomplished that, even a little bit, I think we are content.

"The Master Plan for Higher Education--Implications for Teacher Education"

--Glenn Kendall, President, Chico State College

The state colleges of California are probably more directly affected by the "Master Plan" than any other segment of higher education in our State. By the nature of this morning's program--including both a representative from the University, and a representative from the state colleges--I have assumed that the direction of my remarks should reflect, to a considerable degree, a judgment of how the Master Plan may influence and shape teacher education in the state colleges.

Before addressing myself directly to the topic, I should like to review briefly what I feel all of us should remember when we look at prospective changes in higher education and its implications for teacher education.

The state colleges of California have made unusual progress in recent years under the general policies of the State Director of Education and the State Board of Education. In recent months as the Master Plan for Higher Education was developed and discussed, this particular point of view may not always have been kept clearly in some of the minds of those whose voices were raised in comment. In a period of three decades, the student enrollment in the state colleges has multiplied more than tenfold, and yet this explosive impact of these enrollment pressures has been accompanied by a steady and generally orderly growth of facilities and program. I would want to state my conviction that the state colleges have developed in recent years into multi-purpose institutions of exceedingly high quality, comparable to state universities throughout the nation in the availability of instructional programs and quality of instruction.

As I look at the almost unparalleled development of the state colleges during the few years I have known them--some 13 years to be exact--I am inclined to come to the judgment that whatever progress has been made has been accomplished in major part because of general appreciation for two principal roots: a freedom to respond to public needs and aspirations, and an opportunity to act, based on reasoned judgments.

Probably throughout their presence in California's scheme of higher education, and especially in recent years, the state colleges have been close to the people they served, be it at the community, regional, or State level. These institutions have been responsive to the public weal while at the same time they have maintained the integrity of their program within the general framework of public education in the State. The state colleges have indeed been a piece of the fabric of public education whose threads run from the kindergarten through the university program.

Similarly, there has been great freedom to plan, to study, and to move ahead in terms of reasonably conceived goals. Each college and the state college system as a whole have been permitted to maintain a large degree of autonomy in which they developed the kinds of programs most needed by the people and in accord with some functions (responsibilities) historically derived and generally ordained by statute, and some functions more appropriate solely to the region served by a specific college.

In this State where there are notable geographic, cultural, ideological, and technological differences, the state college serves a unique function by preserving our pluralistic society within a framework of basic values common to the State as a whole. The contribution of the state colleges in this regard has rested in large measure upon recognition of public control and local autonomy by the governing bodies at the State and college levels.

It is, of course, recognized that at times the colleges were handicapped either as a group or individually in the implementation of their objectives. Those of us intimately associated with the administration of the state college programs have tended to feel at times that educational decisions with respect to policy always have not been left to our governing Board of Education and to the State Director of Education. There have been other branches of government entering into these decisions which to the extent they did tended often to handicap any developing program. But in the main, the governing Board of Education and the State Director have exercised unusually wise and thoughtful leadership in keeping opportunities open for the local colleges to develop programs in response to the needs of the people they serve. For this, the people of the State owe an eternal debt of gratitude to the many men and women who have served as members of the State Board of Education and to the State Directors of Education who have served during the years of growth and development of the state colleges.

Despite the outstanding accomplishments and development of the state colleges it is, of course, true and all of us in higher education have recognized it, much more needed to be done. There needed to be clarification of who "controls what" and who "determines policy" on "what matters." The reorganization of the control of the colleges affords an opportunity and a challenge for all of us in the state colleges to improve still further our programs and to meet more effectively the changing needs and demands of the people of California. This, of course, requires diligent study, careful planning, and effective cooperation of all individuals not only in the state colleges but also by the people themselves throughout the State, and in the communities and regions which these colleges serve. In the reorganization of the control of the state colleges cooperation is also essential on the part of other segments of higher education and, of course, by all levels of public education in the State.

I shall not take time here to recall the specific provisions of the Master Plan--they are generally well known to every person in the room. I should like, however, to say at this point that the architects of the Master Plan probably had among others, two goals: (1) to set up the machinery whereby the colleges could have the strength and freedom they need under general policy to develop programs to meet the needs of the society they serve. This meant specifically doing what the legislators said in their resolution, to give the state colleges the same degree of freedom which the University of California has. (2) to provide a representative group of well -informed citizens of the State to serve as a policy-making board with specific concern for the purpose, the program, and the development of the state colleges; this concern not to be diluted by attention to other areas of education.

In any program, the magnitude of which is as great as is involved here, there are bound to be many problems, many concerns, many worries, and I might add, many mistakes. This we shall expect. This should not, however, blind us to the great potentials that are before us at this time.

As I view the direction of our state colleges at this time, I see them growing in breadth and scope of program to meet the ever-growing and developing needs of California in today's world. It is, of course, futile to try to guess the future. We can only imagine what future social and economic life will be. If we imagine passenger airplanes being shot from launching pads, homes heated and cooled with atomic power, life expectancy fantastic as judged by today's standards, we can, of course, realize that the program of the state colleges will be constantly developing to meet new challenges.

In my 35 years of activity in one field or another in education I have seen, as many of you have, great changes. I have seen, too, timid ideas at one time become standard practice at another time. There has been much progress and innovation in education. There has been momentum for achievement and this is perhaps truer today in California than almost anywhere else. Along with the momentum of progress and change we must know that every state college in California as with every other college and every other phase of public education, that its background is steeped in the American system of values. These values have been nourished in their growth from the tap-root of the dignity and worth of the individual.

Certain values we think will not change, and it is upon these basic values that we build our programs to meet the future. We hold that the major objective of education, broadly viewed, is to develop the intellectual, emotional, spiritual, and physical potentialities of the individual, to the end that this individual may live a full life as an individual, and as a useful member of his society. In addition, we believe that a democratic society rests upon the fullest development of the individuality of each person because we recognize and value the unique worth and dignity of every individual. The desire of the individual for affection, for recognition and success will always be with us. Artists will continue to paint pictures, musicians will compose great music, and persons with something to say will write books and poetry. To recognize these basic principles does not mean that American education, as well as the society it reflects, will not change. But regardless of change, the human spirit with its aspirations and sensitivities will permeate every classroom as we attempt to develop to the fullest each individual so that he can fulfill his own destiny and contribute to the realization of the values of a free society.

It appears that expectations like these are before us in the days ahead. For society in such a time we must have people attracted to teaching who possess the intellectual and personal qualities to inspire excellence in others. There is emphasis on excellence wherever we find it. From the Rockefeller Report, "The Pursuit of Excellence--Education and the Future of America," we pick a couple of sentences... "A wasted skill, a misapplied ability is a threat to the capacity of a free people to survive." "From time to time one still hears argument over quantity vs. quality education...but a modern society such as ours cannot choose to do one or the other; it has no choice but to do both." And from John W. Gardner, President of the Carnegie Foundation, "There are, of course, many kinds of excellence and it takes all kinds to make up a happy and successful work force for the world's needs." They must be given opportunity, counsel, and help in the development of the skills and attitudes to meet the needs of the future.

There can be no substitute for scholarship in the education of teachers. Depth of knowledge, of understanding, will be as essential as ever and every teacher will need to know about even more things than he does today.

As there can be no substitute for scholarship, so it is that scholarship cannot substitute for other necessary qualities. Skill in human understandings and relationships will continue to remain a primary need. The qualities of creativity, of flexibility, and adaptability will continue to be, perhaps more so, an important part of every teacher's ability.

It is recognized that we have some distance to travel before this pre-eminent attitude is accorded in equal measure in our country. But to have a distance still to travel is not to say that no distance has been put behind us. Nor is it to say that there is only one roadway ahead. As I view the program of teacher education in California state colleges under the new Master Plan, I think we shall see continuing change in teacher education. It is, of course, already occurring--it should be stepped up.

Changes will be, I think, at least fivefold; in emphasis, in experience and practice, in the influences stemming from the behaviorial sciences, in methodology, and in subject matter.

Let me comment briefly:

1. In Emphasis
The shift will become even more pronounced away from the teacher as one loaded with a bag of tricks, formulae and special methods toward the teacher as a diagonostician and prescriber in learning activities. There is more tradition and even mythology in the area of methods, administrative organization, and curriculum design than is justified today by the best evidence available. The shift is away from "what is to be taught" toward "who is to learn and how."

2. In Experience and Practice
Student teaching, as we now generally practice it, will be greatly changed. The millions of dollars spent over the past years by some Foundations tell us clearly (and perhaps not what some of the spenders wanted to be told) that genuine and meaningful involvement of the learner throughout the training period is a most desirable practice. This does not lie, though, in the opportunity to develop methods in the teaching of a specialty. It lies, rather, in the opportunity of a teacher-in-preparation to commit himself to teaching as a career, and to see and understand the processes of human learning. Doing these, he adds depth and breadth dimensions in the organized study of human development; learning theory, social influences, discipline, purposes of education, and the like.

3. In the Influences from the Behaviorial Sciences
The humanism of the past, which tended to play down any validity in behaviorial sciences, is coming to accept the findings of the behaviorial sciences. These sciences are demonstrating that much about behavior can be explained and give substance to the theorizing of philosophy, literature, and history. These data are of tremendous importance to teachers and teaching. Teachers cannot be competent diagnosticians without these findings.

4. In Methodology
Teaching machines will materially help. We already have some habit of using projectors, sound recorders, television, etc., for some selected data. The use of these and others, yet to be more fully developed will take on more of the tasks of teaching. The teacher will need to be expert in knowing what data will have meaning at a given time and will need to draw upon technicians for presentation. Methodology, for the teacher, will be more of conferencing, process, and evaluation.

5. In Subject Matter
   Subjects are not important for themselves; they are sources of needed data for people at a particular time and place to enable them to perform more successfully their responsibilities and obligations. Subject matter organization into disciplines may be more helpful to a teacher. Teachers in elementary schools will need to be widely acquainted with areas required in elementary education. Secondary teachers should be very expert in areas of teaching competence. In this context it is doubtful that the concept which many people today hold about the "subject matter content" on the one hand and "method" on the other, is valid.

Now let me be very specific, and at first, pessimistic. Let's look at the issue of who should be admitted to state colleges. If new admission proposals result finally (and this is being talked today) in a major emphasis upon so-called college preparatory academic courses as the basis for admission, this is likely to result in a sustained shortage of students preparing to teach in such areas as homemaking, industrial arts, agriculture, etc., now important areas in high school teaching.

If admission policies were to come to be much on the pattern of the University (and this is not to raise the question of appropriateness for them) would it likely follow that the state colleges would tend to become second-grade copies of the University? The state colleges, in my judgment, would be wise not to be lured in that direction, but rather, should be as distinctive as the University but in fields appropriate to them--great teaching institutions in general education and the occupational and professional four- and five-year college programs. If the state colleges become deflected from their basic purposes, then teacher education programs will be the loser.

If the state colleges under the Master Plan become separated from the other segments of public education of the State and do not maintain close communication and union, then teacher education can become "ivory-towered" --to the loss of everyone.

All this and more can happen, and there are evidences that straws in the wind show some movement.

But it should be made equally clear that these things need not happen, and that the Master Plan in itself does not necessarily point in these directions. Basically, it is people that point the direction and make policy.

On a more optimistic note:

1. Admissions policies can be developed recognizing creativity and giftedness in each of the needed areas of human endeavor.

2. It can be assumed that our new policy-making Board and its executive officers will be as dedicated to a great program of teacher education as previous policy-making boards and admissions officers have been.

3. The Legislature has recognized (by unanimous resolution, I think) the importance of freedom to the Trustees to develop the program of the state colleges to meet the changing needs of the people of the State. This is a very important factor..

4. The work of the Coordinating Council (heretofore not mentioned in this statment) can become an effective aid, in calling the attention of the governing boards of the University and the state colleges,

the Legislature, and the administrative officials of the State, to total State needs. I cannot believe that the area of teacher education will not be a major concern of all.

5. Provision is "built in" the plan for a cooperative program for advanced degrees which could develop into programs for the proper education of teachers for teachers. There is no provision now, for example, for advanced degrees for professors in industrial arts.

These points are examples of some "fears" and some "hopes." No Master Plan can please everyone. No Master Plan will work perfectly. For good or bad, and perhaps some of both, we have one. I think that teacher education can do well under it if, (1) the program of the colleges remains responsive and close to all the people of the State and with genuine concern for meeting the diversified needs of youth appropriate to college education, and (2) if this California Council, through cooperative study, experimentation, and program will point the way, teacher education should develop in these years ahead.

"The Master Plan for Higher Education--Implications for Teacher Education"

--Dean E. McHenry, Dean of Academic Planning, University of California

The role of the University of California in the reorganization of higher education in the State is not at all unlike the role of the United States in the world today. We have, in the United States, most of what we want. We aspire to no colonies in South America or in Asia. We want to be secure against attack. We want to go on doing our job; making a living, having a little recreation and growing normally. At the very outset of the Master Plan, and I had the honor to represent the University of California on the survey team, we tried to define our own outlook and role.

Dr. Carl Frisen of the State Department of Finance produced the status quo enrollment estimates quite early in the survey. They showed that among the three public segments of higher education in California--if nature took its course and if present trends continued--the state colleges would grow the most, the University of California the second most, and the junior colleges the least in numbers of students. For most of us this rang an alarm bell, because as more and more people go to college, there will be increased numbers lacking the strictly academic abilities. We feel rather strongly that these people should not be pushed into academic work prematurely, or more deeply than they can handle.

The survey team argued that the junior colleges ought to grow the most, that the state colleges ought to grow the next most, that the University ought to grow the least, so we took the knife of policy and tried to work out ways of changing this rate of growth. The University's aspiration throughout this period, and I think for the future, is to grow only proportionately to the growth of the State. We want the University to play about the same role in higher education in the future as it has played in the past. There is plenty of room for improvement, new opportunities for service, but we feel that quantitatively about the same proportion of the young people of the state should go to the University and have whatever advantages that come from its instruction.

Now, how does the Master Plan affect teacher education? There are some aspects of this that have been overlooked and I welcome the opportunity to underscore them. For the first time in history, so far as I can discover, we have written into the law in the Donahoe Higher Education Act, that one of the functions of the University is teacher training. It was written in because we asked that it be written in. President Kerr felt very strongly on this. Similar words are included in the Donahoe Act with respect to the state colleges as well. The statute is permissive so far as the University is concerned because the University Regents have constitutional status. The University may provide instruction in the liberal arts and sciences, and in the professions, including the teaching profession. I believe this is the first time that the statutes of California have called upon the University to engage in teacher training. You may be interested to hear why this was done, and I would be very pleased to explain it. There have been rumors for a number of years both inside and outside the University that the University was going to go out of the business of teacher training, we were about to close the University elementary school at Los Angeles, we were about to curtail programs of various kinds.

Much of this is stemmed from the University's internal review directed by The Regents in 1957 to make sure that the functions performed by the University, the curricula and courses, were appropriate to the University and compatible with its general mission. This process that we have been going through of re-examination of courses and curricula has led to the curtailment by The Regents of work in industrial arts on the Santa Barbara Campus. Personally I do not approve of the way in which this was done, but I think it was inevitable that this would be eventually classified as outside the University's assigned sphere. There has been a reduction, and there still is in process of review, of the more vocational and technical aspects of curricula and courses, particularly on the Los Angeles Campus. Nevertheless, the University has no intention of going out of the business of teacher training. Indeed, the President of the University and The Regents have taken great interest in this, and have fostered the development of experiments like the Rosenberg Plan for the accelerated training of teachers and the recruiting of new teachers from groups of people who have the skills and ability, but who require a little bit of further training, and some of that training we have found can be done on the job.

A good deal of time was taken by the Master Plan Team in examining the supply and demand for college teachers in California. We found the situation to be at the present time rather desperate; the next five years are going to be nip and tuck to provide enough well-trained college teachers, and this job has got to be done by the independent institutions, by the University, by the state colleges. Some specific things were done that will help in this area. For example, the idea of State graduate fellowships was proposed and will be before the 1961 Legislature. The notion here was to utilize the unused capacity of the independent institutions of California for graduate study. We made a census or check with the presidents of the leading private institutions and we discovered many hundreds of places for additional doctoral candidates unused. The hope was that the financial and economic barriers to students enrolling for graduate work in the private institutions might be removed in part by the establishment of state-financed graduate fellowships tenable in private or public institutions, but based largely upon the tuition charges of the institution, as is the existing State Scholarship Program. Furthermore, it was proposed that there be subsistence grants as well to strengthen the existing State Scholarships, which were increased in number and in size by the 1960 Legislature.

In addition, the Master Plan proposed new graduate fellowships financed by the State. The state colleges have a considerable capacity, some of it still unused, for the training of college teachers. The cooperative doctorate provided in the law will, we think, add materially to the potential for the production of college teachers. The state colleges and the University will join hands and share facilities and staff to produce more.

The recommendations of the Master Plan for new institutions to be created include twenty-two new junior colleges. If established, they will help to build up that man power and woman power that will flow into the senior colleges and may eventually find its way into the teaching profession. Four new state colleges are proposed in the plan. Two of them were previously authorized but not activated--Stanislaus and North Bay. Two completely new institutions were recommended for populous areas. Southwest Los Angeles and San Bernardino were subsequently authorized by the 1960 Legislature, but without appropriation. When established, they are expected to grow as rapidly as Long Beach State College and San Fernando Valley State College and to play equally valuable roles.

For the University of California, the Master Plan endorsed the three new campuses that were authorized by the Regents in 1957: San Diego, Southeast-Los Angeles-Orange, and South Central Coast in the San Mateo, Santa Clara, Santa Cruz, San Benito, Monterey County region. Sites have been selected for both the San Diego and the Orange Campuses. Gifts of land have been accepted in both cases, and the University is actively seeking a site in the South Central Coast area. Each one of these three new institutions will be planned for an ultimate of 27,500 students. The Berkeley Campus and the Los Angeles Campus of the University are expected to reach that enrollment in the middle 1960's. Each new campus will be a well-rounded university, and each one will play its part in education and in teacher training.

President Kendall mentioned, in passing, the Coordinating Council. I think that we have an instrument of value in the Coordinating Council. You will remember that it is composed of 15 members, three each from the four segments: independent institutions, the junior colleges, the state colleges, the University, and three appointed by the Governor from the general public. The Coordinating Council has a number of rather vague responsibilities, such as planning the future of higher education in California; and some specific ones such as reviewing the budgets of the University and of the state colleges. It recommends to the Legislature and the Governor where there should be, and when there should be, new state institutions. The Coordinating Council may develop technical committees or subcommittees or task forces to work in various fields of need. A task force in the field of teacher education might well be placed before them if you feel that way.

The 1961 Legislature is facing a number of further problems in the Master Plan. You remember what was done in 1960. The Donahoe Higher Education Act was enacted. This included the junior colleges and their mission, the state colleges and their government and mission, the University of California and its mission, and the Coordinating Council. A number of provisions were included about the procedure under which a new institution is established. Beyond the Donahoe Act in the 1960 Legislature, we had an increase in the number and the amount of state scholarships. We had declaration of purpose by the Legislature about the relative independence in the fiscal field and other matters of the state colleges.

However, the new Legislature coming into session in January, 1961, will be faced with acute problems of financing the junior colleges. We have called upon the junior colleges to take over, by 1975, a very large number of students who might otherwise have gone to the University or the state colleges. The so-called diversion program is to be accomplished in part by somewhat tightened entrance requirements for both the senior college segments and in part by persuasive counselling. To handle this burden and to increase as much as needed, additional state funds must be provided for the junior colleges, both for operations and for capital outlay. The new Legislature will face this problem and, I am sure, deal properly with it.

Finally, I would like to do a little electioneering, Mr. Chairman, if it is not improper. We have only one feature of the Master Plan on the ballot on election day in November. That is Proposition No. 4 which makes it possible for the Legislature to provide eight-year terms of office for the appointive members of the new Trustees of the State College System. Those of us on the Master Plan Survey Team felt very strongly that long terms were needed for this new governing board so that no future board could ever fall under the control of a single governor in a single term. We think that higher education ought to be divorced a step or two from legislative and executive politics. We think that it will be possible to get better people to serve on governing boards if they are not constantly faced with this uncertainty of frequent re-appointment. I would urge you to spread the word that Proposition No. 4 has real merit. It will give stability to the state college system and its governing board, and it provides the first opportunity to the people of California to give a vote of confidence in its Master Plan. California's tripartite system of higher education is much envied in other states, is sometimes copied, but no state has yet come close to duplicating the original.

"The Master Plan for Higher Education: Implication for Teacher Education"

--Mrs. W. W. Wood, Vice-President, California Congress of Parents and Teachers

This is the third time within a month that I have been on this kind of a program following skilled speakers and I wonder once again why I, as a mere farmer's wife, should be doing this. As my daughter said after the first episode, "I can't understand why you let yourself in for such an embarrassing situation. What you will do for the P.T.A." I am glad, however, to present just a little bit about what one lay group is doing in the field of education.

I am going to read our philosophy, which I am sure most of you already have heard. It is for the purpose of reminding you why we have done some of the things which we have done. "The Parent Teacher Association has a threefold purpose--to know the child through child study and parent education; to cooperate with the schools and other educational agencies in his training, through shared participation with teachers and educators; and to control and build his environment through the development of public opinion and civic activities. The Parent Teacher Association brings together in one organization those parents, teachers, and other adults who are in agreement as to the importance to society of all that concerns children and youth and who are interested in developing activities based upon this belief. The scope of this endeavor includes work in connection with all phases of education, from the earliest experience in the home and nursery school through the elementary school, the high school, and the college. We have endeavored for many years to provide the best teachers and help in any way we can to have a good educational system.".

One of our programs has been our Student Loan and Scholarship Plan. Last year we gave $19,200 for elementary teacher education scholarships, and $139,650 for special education international relations fellowship and scholarships. In addition, we gave money for counseling and guidance, for children's libraries, and fellowships. We also granted many other scholarships. We think that our total investment in the young people of California through our loans and scholarships has been very worthwhile. We have invested $1,738,936.00 in the last fifteen to twenty years.

We made our study of teacher education the last year or two because we had heard many rumors. We had heard everywhere we went that there were not enough teachers for our schools, that there were not enough well trained personnel. We heard rumors that the University of California could only take about 12 percent of all of the students who would be available to go into higher learning--and that soon there might not even be room for students in any institution. When we heard that there was to be a Master Plan for Higher Education in California, we decided that we should review the background so that we could give our membership as many facts as possible. We have 1,800,000 members in the State of California and we feel that they should know about the plan for higher education in the State.

For the last two years we have had two or three other projects in the field of education. One of them was a survey which we reported in "The California Parent Teacher Magazine." We realized that the survey was not all encompassing, but felt that it would show a trend. We listed 36 questions asking people who were interested to answer and mail them back to us. We received over 1,000 responses. Most of our respondents were parents, a few were teachers, and some were school board members. Almost 90 per cent made the statement that they wished the schools of California would teach more fundamentals. It was most interesting to note that the one subject nearly everyone listed as the least important was home economics. The next least important was art, followed by biology. Many wrote across the bottom of their questionnaires something like this: "We believe that home economics and such subjects can be taught in the home. Let the teachers teach the subjects that they are prepared to teach and that we as parents cannot teach." Others commented in general, as follows: "Please urge that teachers be trained in the three R's and teach the three R's."

Another project of the California Congress has been the publication in our California Parent Teacher Magazine of articles dealing with various educational problems. The articles answered certain questions which had been asked at our State Convention in the Spring. We were unable to answer them at that time and decided that perhaps our Magazine should be utilized for that purpose. Many of the questions related to repeated criticisms we have heard expressed throughout the State. We prepared the articles with the help of a group of consultants, some of whom are members of the Council. The actual writing was done by our own lay members. We were particularly anxious that the language used be understood by all our readers.

Another important project has been the concentrated study of specific educational fields by subcommittees on our State Board of Managers. The subcommittees report their findings and these then serve as guides for discussion groups within our organization.

Our first study concerned higher education in the State. You, no doubt, are aware of the following facts, but they are interesting and may bear repeating. We found, for instance, that in 1857 the first normal school in San Francisco was called the Weekly Normal School, in 1862 it became the first California State Normal School, and in 1871 it was moved to San Jose. In 1882, a branch was opened in Los Angeles, which was called the Los Angeles State Normal School. I remember accompanying my father to that school as a young girl in 1918, where he spent two days interviewing prospective teachers. In 1919, the Los Angeles State Normal School became the Southern Branch of the University of California; and in 1927, it became the University of California at Los Angeles. So in a period of just a few years it evolved from a normal school to a State University. Santa Barbara has a similar story. In 1909, it became the Santa Barbara State Normal School of Manual Arts and Home Economics; in 1919, Santa Barbara State Normal School, in 1921; Santa Barbara State Teachers College; in 1935, Santa Barbara State College; and in 1942, the University of California at Santa Barbara. In other words, the Legislature changed the normal schools to teachers colleges in 1921, and in 1935 changed the teachers colleges to state colleges with offerings in many other fields than teacher education.

The Congress made a survey in 1953 and found 104 subjects in which students could get a baccalaureate degree in the state colleges. At the state University there were 37 subjects leading to master's degrees in teacher service. While the main function of the state colleges at this time, was still teacher education. The California Congress became concerned abokt the future of teacher education in this State. We wondered if the state colleges were moving away from their main function, and what was going to happen to the future of teacher education in California. Last year, with that in mind, we made another investigation. Two approaches were used. A ten page questionnaire dealing with teacher education was sent to every publicly supported institution of higher learning. The questionnaires were backed up by personal interviews. Two teams of two people each were used. Mrs. Mary Jean Harder, who has worked very closely with you in the Council, headed up the interview teams. Four out of the five people who did the interviewing, were former teachers. We held interviews in seven state colleges; the University of California, Berkeley; the University of California, Los Angeles; and the University of California, Santa Barbara. Our teams spent from one to three hours in each institution interviewing the president, the dean of the college, and the head of the education department. These were fascinating and rewarding experiences. There are many of you here in this room who were interviewed by our lay teams. Out of the questionnaires and interviews came our official P.T.A. Statement on Teacher Education. This statement, I believe has not yet been handed out. We have it here and at the close of my presentation I am going to ask that it be distributed. This is the statement which already has been sent to each of the institutions participating in the survey. We hope you will read the statement carefully. Many hours of study went into it. We hope you will find it helpful.

I will present to you briefly some of the general observations we made. We all were impressed at the excellent cooperation we received in every institution. Everyone accepted us as having a genuine and constructive interest in education. All stated their belief in the importance of teacher education. We noted some lack of consistency in the classification of courses in Education. It was very hard for us to determine whether certain courses were education courses or whether they were courses in the liberal arts. Each college had its own system. We found that there was an increasing concern for the students themselves, and the need for preparation for leadership positions. Everyone seemed completely aware of the complexity of life in this day and age, and all stated the necessity to develop new methods and new material including programming for teaching machines.

Everyone interviewed seemed to feel that there were increasing demands and pressures in the field of education. These demands seemed to run from a desire for better teaching to a demand for more research and increased services. There was a very definite expression of a need to enlarge and broaden the base for teaching; that they were moving definitely toward a common base in every educational field. We heard many times, statements such as "where once we offered just single courses for administrators in the field of education, now we give general courses for administrators because all administrators whether in or outside the field of education need a basic foundation." Every interview and written communication expressed the pressing need for more money to enlarge campuses, to build more buildings, and to hire more teachers. Several said that they were handicapped at the present time because they did not have sufficient funds to hire the necessary number of teachers. The above are some of the specifics which the Committee of the California Congress felt were most important.

Briefly, I would like to give you a few of my own personal reactions. It was my privilege to participate in about three quarters of the interviews, and I came out with some definite conclusions. I emphasize that these are my own and not the official views of the Congress. I found that if the president of the institution had been a member of an education department, that there was evidence of a great deal more activity and interest in teacher education than if he had not had this personal experience. If a president had emerged from a field such as history, he was interested in teacher education, but not to the same extent. Of all the institutions visited, only one was evasive. One preferred not to commit itself on the future of teacher education or predict what effect the Master Plan would have.

There was evidence of an awareness of teacher education as an overall college function. Each institution has its own way of operation and committee system but fully recognized its total responsibility--that to produce good teachers every department has to be involved. I believe also that each institution is fully aware of the need for teachers. Teacher supply and demand has been studied carefully for an extended period of time and is well publicized. On one of the questions which was asked relative to the emphasis placed upon teacher education in each institution, five stated that there was more emphasis today than previously, two stated that there was less emphasis. Five stated that the emphasis was the same. Two answered the question by stating that they did not know whether there was more or less. As to the emphasis needed in the next ten or fifteen year period, five declared that there would be more emphasis, while five explained they did not have an opinion. Six institutions said they did not know whether or not teacher education would be intensified, but believed there would be a complete change in the teacher education department within the next ten years.

All but three institutions went on record as being pleased with the cooperation which they received from other departments. Two stated that every department cooperated except the science department. One explained that every department cooperated except the mathematics department. In several colleges and universities, a definite concern was expressed that professors in education departments did not have equal status (prestige) with professors in subject or other departments. They claimed this affected their ability to recruit competent teacher education staff. A general complaint heard was that liberal arts professors would not encourage their best students to become teachers. Most persons interviewed expressed the belief that the Master Plan would help, and that within the next five years approximately 12½ percent of the students would go to the University, 33 percent to the state colleges, and all the rest to the junior colleges.

In regard to graduate degrees, variance was found in the criteria used for staff procurement in education departments. It was interesting to hear the comments in two or three institutions that most persons graduating with doctorates from the University of California, were going out of state to teach because California institutions would become in-grown if their staffs were saturated with such doctorates. However, as the Master Plan went into effect so that the state colleges would be able cooperatively to grant higher degrees, respondents believed this would bring about a great change.

To me personally, it appears that the educational climate on the various university campuses is less favorable to teacher education than on the campuses of the state colleges. Please remember this is only my own personal reaction. The reason for this, I believe, is that at the university level many other fields are offered, while the major function of the state colleges is still teacher preparation.

I found that the various functions of departments of education in our institutions were quite similar. There appeared to be four main functions: (1) the granting of undergraduate and advanced degrees, (2) the conducting of educational research, (3) the extension of educational services to the public schools and other agencies in the State, and (4) the preparation of teachers. One point I gained needs to be widely publicized, and that is that a teacher is not completely prepared in four years of study. Teacher education is a continuing process. Each teacher should extend his preparation as part of his professional responsibility.

There was some general feeling expressed that the master plan for higher education in California is a step forward but that it only goes part way. The next step forward is a master plan that will deal specifically with junior colleges.

It has been a very wonderful experience for me to have had the opportunity to serve the past two years as a member of the Council. I am very grateful for the privilege of doing so. Thank you very much, and I hope you will read carefully the statement on teacher education of the California Congress of Parents and Teachers.

ROSTER

Adams, Fay G.	University of Southern California, Los Angeles
Addicott, Irwin O.	Fresno State College, Fresno
Aigner, Henry	Dominican College, San Rafael
Anderson, Donald G.	Oakland Unified School District, Oakland
Anderson, Roy E.	California State Polytechnic College, San Luis Obispo
Armstrong, Kenneth S.	Pasadena College, Pasadena
Babcock, Dorothy	Mills College, Oakland
Bain, Emerson M.	Madera County Schools, Madera
Baldwin, Harmon Wayland	Los Angeles City Schools, Los Angeles
Ballou, Stephen	Fresno State College, Fresno
Barton, Virginia	California Elementary School Administrators Association (Salinas)
Baum, Paul B.	La Verne College, La Verne
Beery, Cleo C.	La Verne College, La Verne
Bernard, Lloyd	University of California, Berkeley
Berry, Aubrey L.	Western Institutional Teacher Placement Association (Los Angeles)
Bevans, Lloyd	Stanislaus State College, Turlock
Beyer, Fred C.	Association of California County School Superintendents (Modesto)
Bjonerud, Corwin E.	San Francisco State College, San Francisco
Blackmore, Dorothy S.	Dominican College, San Rafael
Blackmore, Edwin L.	Marin County Schools, San Rafael
Bolliger, Wilbert V.	California Teachers Association (Pomona)
Bond, Jesse A.	University of California, Los Angeles
Boyer, Ernest L.	Upland College, Upland
Brady, Elizabeth H.	San Fernando Valley State College, Northridge
Breslow, Alice	University of California, Berkeley
Briggs, Mitchell P.	Western College Association (Fresno)
Brother Lawrence, F.S.C.	St. Mary's College, California
Browing, Bruce	Chapman College, Orange
Brown, Edwin J.	University of Santa Clara, Santa Clara
Brown, Gerald W.	University of California, Riverside
Brown, Robert D.	Student, California Teachers Association (San Francisco)
Brownell, William A.	University of California, Berkeley
Bull, Stanley	La Sierra College, Arlington
Burgess, Evangeline	Pacific Oaks Friends School, Pasadena
Burkart, Kathryn H.	Marymount College, Palos Verdes
Burnett, Lewie	Fresno State College, Fresno
Cannon, R. C.	California Western University, San Diego
Cappa, Dan	Los Angeles State College, Los Angeles
Cartwright, Donovan F.	California Association of School Administrators (Tulare)
Christian, James H.	Biola College, La Mirada
Coombe, Eleanor M.	California Association for Health, Physical Education, and Recreation (San Jose)
Cooper, Ethel H.	California Association for Supervision and Curriculum Development (Whittier)
Cox, Vivian	Los Angeles County Schools, Los Angeles
Craig, Robert E.	California Baptist College, Riverside
Crowley, Gerard	Stanislaus State College, Turlock
Crum, Clyde E.	San Diego State College, San Diego

Dahl, John A.	Los Angeles State College, Los Angeles
Davis, Paul C.	Los Angeles Pacific College, Los Angeles
Dederick, Nellie E.	Los Angeles City Schools, Los Angeles
Devine, John R.	University of San Francisco, San Francisco
Dickison, Lucille	California Congress of Parents and Teachers (Los Angeles)
Doane, Kenneth R.	Orange County State College, Fullerton
Douglass, Malcolm	Claremont Graduate School, Claremont
Dow, Mrs. Ralph S.	California Congress of Parents and Teachers (Sacramento)
Durflinger, Glenn W.	University of California, Santa Barbara (Goleta)
Eboch, Sidney C.	San Jose State College, San Jose
Ede, Raymond C.	California Association of Independent Schools (Carlsbad)
Ehrmann, Gerhard E.	Orange County State College, Fullerton
Ericksen, Donald	California Teachers Association, Central Section, (Reedley)
Eschenbrenner, James	Upland College, Upland
Farmer, Daniel S.	California Association for Health, Physical Education, and Recreation (San Francisco)
Farrar, Charles	Stanislaus State College, Turlock
Finnegan, Rev. Darrell F. X.	Loyola University, Los Angeles
Fischer, Louis	San Fernando Valley State College, Northridge
Flint, Calvin	California Junior College Association (Mountain View)
Ford, G. W.	San Jose State College, San Jose
Ford, Harry X.	California College of Arts and Crafts, Oakland
Fulkerson, Glen	San Diego State College, San Diego
Futter, Irvin	San Francisco State College, San Francisco
Georgiades, William	University of Southern California, Los Angeles
Giambruni, Tebaldo L.	California College of Arts and Crafts, Oakland
Gilbaugh, John W.	San Jose State College, San Jose
Goodspeed, Stephen S.	University of California, Santa Barbara, (Goleta)
Gordon, Wayne	University of California, Los Angeles
Gowan, Jane T.	Long Beach State College, Long Beach
Gowan, John C.	San Fernando Valley State College, Northridge
Griffin, Edward J.	University of San Francisco, San Francisco
Grindstaff, Leonard	Riverside County Schools, Riverside
Harbeson, Alice	Santa Barbara
Hartsig, Barbara	Orange County State College, Fullerton
Henfling, Phyllis B.	Fresno State College, Fresno
Hiler, John M.	California Teachers Association, Bay Section (San Mateo)
Hodgen, Maurice	La Sierra College, Arlington
Honett, Eloise J.	Mt. Diablo High School, Concord
Hudson, Elizabeth	California School Boards Association (Long Beach)
Hunt, Tom	California Teachers Association, Southern Section (Walnut)
Hurd, Blair	State Department of Education, Sacramento
Hurst, Homer	Whittier College, Whittier

Ingebritson, K. I.	Humboldt State College, Arcata
Irish, Elizabeth H.	University of California, Santa Barbara (Goleta)
Jackson, G. Alden	California Association of Adult Education Administrators (Los Angeles)
Jantzen, J. Marc	College of the Pacific, Stockton
Johnston, Rex	Pepperdine College, Los Angeles
Johnstone, Oliver P.	Long Beach State College, Long Beach
Jones, L. L.	California Association of School Administrators (Ventura)
Keith, Lowell	San Jose State College, San Jose
Kendall, Glenn	Chico State College, Chico
Kiesel, Ferd J.	San Juan School District, Carmichael
King, Arthur R.	Claremont Graduate School, Claremont
King, Lloyd H.	College of the Pacific, Stockton
Kitch, Donald E.	State Department of Education, Sacramento
Knoell, Dorothy	State Department of Education, Sacramento
Koester, George A.	San Diego State College, San Diego
Konold, A. Ewing	San Fernando Valley State College, Northridge
LaBounty, Hugh O.	California State Polytechnic College, Pomona
Landrus, Wilfred M.	Chapman College, Orange
Lang, Carl D.	College of the Pacific, Stockton
Langenbach, Louise	El Dorado County Schools, Placerville
Larson, Carl A.	State Department of Education, Sacramento
Lepore, Albert R.	Alameda County State College, Hayward
Linn, Ronald N.	Oakland Unified School District, Oakland
Lloyd, Darlene	Student, California Teachers Association, (Los Angeles)
Lombard, Edwin H.	Fresno State College, Fresno
Lucas, Pat	Pepperdine College, Los Angeles
Lund, S. E. Torsten	University of California, Berkeley
Lundberg, Carl	Lewelling School, San Lorenzo
Marsh, Jack N.	University of California, Berkeley
Martin, Vibella	Marin County Schools, San Rafael
McAndrew, Gordon	Oakland Unified School District, Oakland
McPherson, Virgil	Chapman College, Orange
Miller, Harold E.	Westmont College, Santa Barbara
Moore, George H.	Biola College, La Mirada
Morgan, H. S.	State Department of Education, Sacramento
Mother Beth Nothomb	San Francisco College for Women, San Francisco
Mother du Sacre Coeur	Marymount College, Palos Verdes
Mother M. Gregory	Marymount College, Palos Verdes
Mother Felix	Saint Joseph College, Orange
Mother Irene Lawrence	San Diego College for Women, San Diego
Mother M. A. Rossi	San Diego College for Women, San Diego
Mother Natalie E. White	San Francisco College for Women, San Francisco
Myers, Charles	Long Beach State College, Long Beach
Newberry, Lawrence P.	University of California, Davis
Nordberg, H. Orville	Sacramento State College, Sacramento
Newbold, Henry E.	Merced County Schools, Merced
Normington, Louis	Pacific Union College, Angwin

O'Brien, Beatrice	California Elementary School Administrators Association (Los Angeles)
O'Farrell, Rev. John	Loyola University, Los Angeles
Ormsby, George W.	State Department of Education, Sacramento
Ormsby, Lelia	Sacramento State College, Sacramento
Orr, Dorothy	California Association for Childhood Education (Bakersfield)
Perry, Harold E.	California Association of Secondary School Administrators (Los Angeles)
Peterson, Joy	Santa Barbara County Schools, Santa Barbara
Phearman, Leo T.	Long Beach State College, Long Beach
Phelps, Arthur T.	University of Santa Clara, Santa Clara
Pogue, Jean	California Teachers Association, Central Coast Section (Watsonville)
Prator, Ralph	San Fernando Valley State College, Northridge
Purdy, C. Richard	Alameda County State College, Hayward
Quinn, Rev. Francis A.	California Council of Catholic School Superintendents (San Francisco)
Rehwaldt, Walter	California Western University, San Diego
Reiber, Harold G.	University of California, Davis
Reyburn, Noel	Santa Cruz County Schools, Santa Cruz
Riles, Wilson	State Department of Education, Sacramento
Rippey, Andrew D.	Fresno State College, Fresno
Robeck, Mildred C.	California Association for Student Teaching (Santa Barbara)
Roberts, Harold B.	Sacramento State College, Sacramento
Robinson, Alvin E.	University of California, Santa Barbara (Goleta)
Robinson, Clark	University of California, Berkeley
Robinson, John T.	San Francisco State College, San Francisco
Rogers, William	San Jose State College, San Jose
Rolfe, Franklin P.	Western College Association (Los Angeles)
Roulette, Ray S.	California Teachers Association (Inglewood)
Rowland, J. Kenneth	California Junior College Association (Modesto)
Ruddell, Arden K.	University of California, Riverside
Rusteika, George P.	Alameda County Schools, Hayward
Ryrie, Sally	Upland College, Upland
Samson, Ruth	Los Angeles State College, Los Angeles
Sando, Rudolph	Los Angeles State College, Los Angeles
Schiffilea, Doris	Mount Saint Mary's College, Los Angeles
Schmaelzle, Otto I.	California Association of Secondary School Administrators (San Francisco)
Schroeder, Walter P.	California State Polytechnic College, San Luis Obispo
Schrupp, Manfred H.	San Diego State College, San Diego
Schwartz, John C.	San Fernando Valley State College, Northridge
Sehmann, Henry R.	Long Beach State College, Long Beach
Shannon, E. Boyd	Pasadena College, Pasadena
Simmons, Loyed R.	California Baptist College, Riverside
Sister Aloyse	Immaculate Heart College, Los Angeles
Sister Angela Elizabeth	College of Notre Dame, Belmont
Sister Claire Marie	College of Notre Dame, Belmont
Sister Elizabeth Ann	Immaculate Heart College, Los Angeles
Sister Emelia	College of Notre Dame, Belmont
Sister Francis DeSales	Saint Joseph College, Orange

Sister Gerard Marie	College of Notre Dames, Belmont
Sister M. Adele,	Dominican College, San Rafael
Sister M. Patrick	Dominican College, San Rafael
Sister Margaret Clare	Mount Saint Mary's College, Los Angeles
Sister Maria Socorro	Immaculate Heart College, Los Angeles
Sister Mary Clare	College of the Holy Names, Oakland
Sister Mary Humiliata	Immaculate Heart College, Los Angeles
Sister Mary of St. Michael	College of the Holy Names, Oakland
Sister Rose de Lima	Mount Saint Mary's College, Los Angeles
Sister Rosemarie Julie	College of Notre Dame, Belmont
Sister Teresa Augustine	College of Notre Dame, Belmont
Smith, Joe	Chico State College, Chico
Smith, Robert	San Francisco State College, San Francisco
Smith, Wesley	State Department of Education, Sacramento
Snyder, Harvey B.	Pasadena College, Pasadena
Sorenson, A. Garth	University of California, Los Angeles
Sowards, G. Wesley	Stanford University, Stanford
Spieth, Herman T.	University of California, Riverside
Starmer, Garrett L.	Chico State College, Chico
Stevens, Kathleen H.	Los Angeles
Stier, Lealand D.	University of California, Santa Barbara (Goleta)
Stone, James C.	University of California, Berkeley
Storey, Lorraine	Pacific Oaks Friends School, Pasadena
Sutherland, Margaret	University of California, Davis
Sutherland, S. S.	University of California, Davis
Taba, Hilda	San Francisco State College, San Francisco
Taylor, Lee	Pacific Union College, Angwin
Tegner, Olaf	Pepperdine College, Los Angeles
Tiegs, Ernest W.	Los Angeles State College, Los Angeles
Todd, William H.	San Joaquin County Schools, Stockton
Trainor, Joseph C.	Humboldt State College, Arcata
Trieb, Carl F.	Occidental College, Los Angeles
Tyler, Fred. T.	University of California, Berkeley
Vanderpool, J. Alden	California Teachers Association (Los Angeles)
Walker, Freda	California Teachers Association, Northern Section, (Hamilton City)
Wallace, Vernon	Western Institutional Teacher Placement Association (San Francisco)
Walter, R. Bruce	Los Angeles County Schools, Los Angeles
Watson, Earl G.	California Association for Childhood Education (Fresno)
Watts, Phyllis	Fresno State College, Fresno
West, Robert L.	University of Redlands, Redlands
Wiebe, Elias	Westmont College, Santa Barbara
Williams, R. T.	Pasadena College, Pasadena
Wilson, B. O.	California Association of School Administrators (Walnut Creek)
Wilson, Donald E.	University of Southern California, Los Angeles
Wilson, John	University of California, Santa Barbara (Goleta)
Wood, Mrs. W. W.	California Congress of Parents and Teachers (Marysville)
Young, Herbert A.	University of California, Davis
Young, Roman	Mount St. Mary's College, Los Angeles
Ziff, Norman	Long Beach State College, Long Beach